NEW REMEDIES.

AN ILLUSTRATED MONTHLY TRADE JOURNAL OF

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

VOL. VI., NO. 5, WHOLE NO. 35.

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PUBLISHED BY

WILLIAM WOOD & CO., No. 27 Great Jones St., N.Y.

MAY 15, 1877.

SUBSCRIPTION PRICE, per year, - - - $1.50
SINGLE COPIES, - - - - - - - .15

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	1 Month	3 Months	6 Months	12 Months.
One Page	$35 00	$90 00	$150 00	$250 00
½ " or one Column	20 00	50 00	90 00	150 00
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Please note our advertising pages. There are no *deadheads* in NEW REMEDIES. No advertisements inserted or retained unless paid for, *except* "Situations Wanted;" in such cases we are glad to help those who try to *help themselves*.

EDITORIAL.

ON another page we publish the text of a bill which has already passed one branch of the State Legislature, and which aims at a means for regulating the weights and balances employed by pharmacists in this city. On page 32 of our January number we gave an extract from a series of editorial articles in the *Medical Record* on this subject, and we believe we are right in presuming that this effort at legislation is in consequence of the facts there mentioned. There can be but little doubt that pharmacists are much in want of a convenient way for verifying their weights and balances, for, with the present competition among the makers of these wares, the marks on the pieces and the general features of construction are not guarantees of correctness to be relied on. The conscientious pharmacist fails in his duty who does not take special pains to know that such instruments of precision are really what they profess to be.

We believe that if the College of Pharmacy would afford its members opportunities at convenient intervals for such verification, and would notify them of its desirableness, all the good men of the profession would avail themselves of such occasions. As for the bad men, we cannot see what good can come from the appointment of an inspector in the manner contemplated by the act.

In selling bulky articles, such as groceries, for example, the customer usually stands by and sees that he gets full weight, and in this case the systematic inspection of weights is well calculated to prevent fraud; but in the compounding and dispensing of medicines the case is quite different. The customer rarely oversees the manipulation—and in most cases, we may say, would not understand it if he did—and a druggist who would use incorrect weights and balances from dishonest motives, would not lack opportunities for accomplishing his purpose, unless the official inspector could stand at his elbow constantly.

There are more serious objections than this, however, to the act as it now stands, the most prominent one being that no competent man could be found who would retain the place long enough to render the law of any value. The law requires the inspector to examine all the weights and balances in use at least once a year, but awards him for his compensation for this decidedly arduous service only the fines collected, not exceeding $1,200. The inspector is also directed by the act to levy and collect the fine himself, and as he is to be an appointee of the Mayor, it is fair to presume, from past experience, that the merits of the successful candidate for the place are more likely to be of a political than a professional character. The condition of the pharmaceutical trade, subject to the frequent visits of a ignorant rough having a strong pecuniary incentive to levy black-mail, can, perhaps, be imagined.

Suppose, however, a good and competent man should get the office, and in the course of his tour of duty should call on an apothecary who might offer every facility for the examination of his weights, but positively refuse to pay the fine. We fail to discover any provision in the act for collecting the money, and in case the apothecary sincerely believed that his weights were correct, in spite of the inspector's statement to the contrary, the settlement of the controversy would involve something more than a police-court trial, if we are not very much mistaken in regard to what constitutes the rights of individuals under the laws.

SEVERAL times already have efforts been made to engraft a botanical garden upon our Central Park, but the lack of means which could be devoted to the purpose has prevented its being carried out. In view, however, of the prospective removal in the fall of the American Museum of Natural History to the piece of ground above Seventieth Street, on the west side of the park, some gentlemen, among whom Mr. Samuel B. Ruggles is quite prominent, are making an effort to secure the passage of a bill which will enable them to use the land of "Manhattan Square," not occupied by the museum, for the purposes of a botanical garden. As it is intended to raise the means for doing this by subscription, we have decided doubts of the success of the plan. Some good, however, will result from the agitation of the project, and we still hope that the Museum itself will devote the small amount that would be required of its own funds, to the support of a botanical collection, which will at least form a nucleus. There are a considerable number of associations and institutions in the city whose labors would be greatly facilitated if its members could have access to a well-arranged garden, though it might be of only moderate capacity. It may be, therefore, that in the event of the bill becoming a law, these organizations might be quite willing to contribute towards raising the amount needed.

IT is not an uncommon thing to see the laboring-men of England spoken of as being given much more to passing their spare time in gin-mills and public houses, than employing it for any good end; but we find a statement in one of our exchanges which makes us wish that the corresponding class in this country could have anything half as good said of them as the following:

"It was reserved for the workingmen of Tyldesly and Atherton to strike out a new idea. They have clubbed together and formed a sort of joint-stock company, with shares of £1 each, 130 of these having been taken up by 97 members. With the money they have secured two acres of land, pleasantly situated, and containing a lovely dell. The spot thus selected they mean, by their own efforts, to turn into a Botanical Garden. Every evening, for some months past, they have been busy with their spades, digging and delving, making winding walks and raising banks, diligently working with their own hands to lay out and utilize the ground. Shortly the 'landscape gardening' will be complete and the beds ready for planting. A cottage at the entrance of the enclosure is intended for the occupation of one resident member, who is to act as librarian and custodian. The books belonging to the two societies are to be intrusted to his care."

ON the 5th of April the Court of Appeals of the State decided that the Excise Commissioners have no authority to grant licenses to keep and sell spirituous liquors and wines to any but those persons who keep an inn, tavern, or hotel. In the city of New York alone there are estimated to be at least 8,000 persons who at that time were infringing the law, although they held licenses from the Excise Commissioners. The disturbance caused among them by this decision can well be imagined, and their only recourse being a modification of the law, their efforts to accomplish that end have been very persistent. An opposition, headed by Howard Crosby, Chancellor of the University of the City of New York, and well-known as pastor of a leading Presbyterian Congregation, has called upon all who believe that the abuse of alcoholic drinks needs to be checked, but who do not sympathize with the advocates of total abstinence, to aid in preventing a change in the law.

These persons claim that the right to sell ale and beer is all that should be left to this multitude of retailers of alcoholic drinks, and that the wants of the community are sufficiently met by allowing the sale of distilled liquors and wines to take place in the places designated by the act. We very much fear that the interests of the liquor dealers will carry the day, but we sincerely hope that it could be otherwise.

The present amount of disease and poverty resulting from the almost unlimited sale of alcoholic liquor is unquestioned, and the medical profession is directly interested in the result of this movement.

THE plan proposed by Dr. Squibb for the revision of the U. S. Pharmacopœia is still the subject of active controversy in this neighborhood. The Kings County Medical Society have given it their endorsement, and at the last stated meeting of the Medical Society of the County of New York, it was the subject of discussion, a number of representatives of the College of Pharmacy being present by invitation, and taking part.

Some of the speakers among the physicians seemed to confound the Pharmacopœia with Wood and Bache's United States Dispensatory, and gave the impression that they had never become sufficiently acquainted with the former work to recognize its character. The majority, however, spoke intelligently, and were mostly in favor of any change which would make the Dispensatory a

more serviceable work. The exceptions were two of the four pharmacists who took part in the discussion; and one of the two, having been a delegate to the General Convention of 1870, probably felt called upon to support the old *régime*.

No vote was taken on the question, it being resolved that the discussion should be continued at a subsequent meeting.

In our next number we shall commence the series of papers promised at the commencement of this volume, on the methods of detecting adulterations in commercial drugs and chemicals. To render the scheme of greater interest and value to such of our readers as choose to take part, we shall, in connection with it, offer a prize of books each month for the best analysis of a sample to be furnished by us. It is our intention to have the first analysis quite simple, and gradually to increase their intricacy, so as to afford to students and druggists a means for becoming practically familiar with the methods of analysis essential to the retail druggist who may desire to assure himself of the quality of the goods offered him. Some of the specimens will be of vegetable origin, and consist of seeds, barks, leaves, roots, flowers, etc., giving opportunity for the use of other means than chemical analysis for their examination.

Persons desiring to compete, will send their addresses without delay to the publishers, who will also receive the answers, and take charge of the envelopes containing the names of the contestants.

Each candidate will be expected to furnish a written account of the method pursued in the examination, and to state the nature of the substance examined or the adulterant, when one exists. The paper must not be signed, but, instead, a motto or device may be used, which shall also be put onto a sealed envelope, containing the name and address of the writer. In the subsequent paper the various answers will be commented upon, and the name of the winner of the prize will be announced.

We have had a number of inquiries relating to the tariff on chemicals, drugs, and medicines, and especially regarding the character of the examination by the Customs' authorities into their purity and fitness for medicinal use. We therefore publish, on page 157, a synopsis of the rates of duty and other facts which are not generally known, and which will be of considerable interest. The manner in which this service is performed for the port of New York leaves no occasion for "Civil Service Reform" in one department of the Custom House at least.

We have a somewhat lengthy communication from Dr. Polk, of Philadelphia, on the medical employment of Protagon, as well as on the question of priority in its use, between Dr. Percy and himself, but we are obliged to defer its publication or the present.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Jaborandi.

The plant which has recently been introduced as an article of the materia medica under the name of jaborandi is a native of Brazil, where the words *jaborandi*, *iaborandi*, and *jamborandi* are used to designate a number of plants having pungent and sudorific properties. One of these, belonging to the family of Piperaceæ, we described in our last number, and this month we publish an illustration of a species belonging to the family of Rutaceæ, which was described by E. M. Holmes in the *Pharm. Journal*, third series, v., 581. The sample from which the drawing was made came from Pernambuco, and careful examination showed that it differed in some respects from the *P. pinnatifolius* of Lémaire, a specimen of which is cultivated in the botanical gardens at Kew. Mr. Holmes suggests that this species should be called Pernambuco jaborandi, in order to distinguish it from the other.

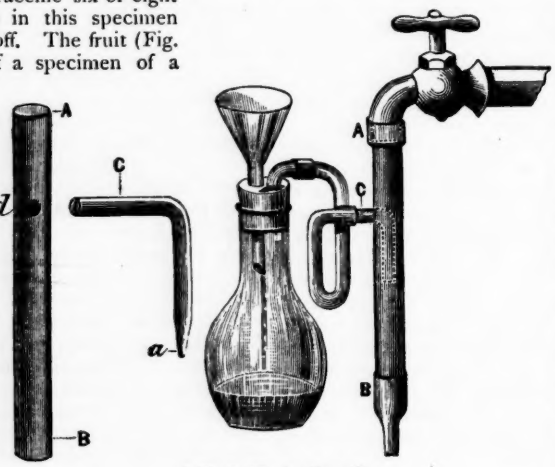
The specimen from which the plant here illustrated was chosen appears to belong to a shrub about five feet high. The root is cylindrical, hardly tapering at all, nearly three-quarters of an inch in diameter for the first 12 inches, and very sparingly branched. The bark of the root is of a pale yellowish brown color, about one line in thickness, and has a very short fracture. The outermost layers are very thin and papery, and are frequently exfoliated. The odor of the root is like that of bruised pea-pods and orange-peel. The taste is at first like that of green peas, but this soon disappears, and gives place to a tingling sensation, which is much more powerful than that produced by the leaves or bark of the stem, and endures for a considerable time. By gas-light the transversely cut surface of the bark is seen to sparkle with minute crystals.

The bark of the stem is thin, of a grayish brown color, longitudinally striated, and sprinkled over in some specimens with a number of white dots, which are not lenticels, but the remains of old oil receptacles. The bark of the stem is thin and fragile, and readily scales off when the stem is broken or bent; it has a short fracture, and is yellowish white internally; its inner surface sparkles with minute crystals; it has not, to any appreciable extent, the leguminous taste of the root. The wood of the stem is yellowish white and remarkably fibrous. The stem branches at an angle of about 20°. The leaves (Fig. 1) are alternate, imparipinnate, about nine inches long, with from three to five pairs of opposite leaflets, which are about 1¼ inches apart. The leaflets are variable in size, even on the same specimen. Their texture is coriaceous, and when moistened they resemble in size and thickness the leaf of the

cherry-laurel. The veins are prominent on both sides of the leaf. The mid-rib is scarcely prominent on the upper, but forms a distinct keel on the under surface of the leaflet. When held up to the light the leaflets are seen to be densely pellucidly punctate. These pellucid dots are not arranged, as in another kind of jaborandi, in lines along the veinlets, but are irregularly scattered. The whole plant is glabrous.

There appear to be two varieties, if not species, of this Pilocarpus, one being perfectly smooth in every part, as above described, and the other having the stems, petioles, and under surface of the leaves covered with a velvety growth of hairs. In shape and size the leaves of the hairy variety resemble the other, but are rather thinner in texture, and have a somewhat different and less pungent taste.

In the illustration 1 is an entire leaf; 2, leaflet, under side, showing venation; 3, an entire fruit, natural size, with peduncle. The inflorescence is believed to be a raceme six or eight inches long, the top in this specimen having been broken off. The fruit (Fig. 3) resembles that of a specimen of a Cuban plant of the genus *Galipea*, referred by Asa Gray to *Pilocarpus heterophyllus*. When perfect the fruit consists of five carpels, of which not more than two or three are usually developed to maturity. When ripe the carpels separate into two valves (Fig. 5) and then resemble minute cockle-shells (Fig. 4), with the valves open exposing the animal. Figs. 5 and 7 show the inner case. Figs. 4 and 6 show the curved ridges which exist on both inner and outer surfaces of the carpellary valve; Fig. 8, placenta separated; Fig. 9, seed, *a*, hilum; Fig. 10, endocarp without the placenta; Fig. 11, cotyledon.



A Simple Filtering Pump.*

A Simple Filtering Pump.

B. C. Buck constructs a filter pump on the principle of Sprengel's exhaust pump, in the following simple manner: A piece of half-inch caoutchouc tubing, six inches long, is provided with a one-eighth inch round hole, two inches from the end, by means of a cork-cutter, or with a common steel punch. A piece of quarter-inch glass tubing is now shaped as shown in cut; the pointed end, a, is inserted in the hole at d, pressed until its bend is just inside the tube, and the pump is completed. The end (A), of the caoutchouc tube is stretched over the nozzle of a faucet, a quarter-inch discharge pipe is stretched over the other end (B). The vacuum produced will, of course, be proportionate to the height of the column of water supported in the discharge pipe. With a height of four to six feet, passed down the drain pipe, which is connected with the sink, very good results may be obtained. The bottle, bell glass, or test-tube to be exhausted is attached by means of quarter-inch tubing at C. The illustration shows the pump arranged for use.—*Proceed. Am. Pharm. Assoc.*, 1876, 54, from *Am. Chem.*, 1876, 311.

On the Alkaloids of Aconite.

Mr. C. R. Alder Wright has continued his researches on the alkaloids of aconite, and has particularly reëxamined the products obtained by previous investigators. He sums up his conclusions as follows:

1. *Aconitum Napellus* roots, as met with in commerce, yield by appropriate means a highly active, well-crystallized alkaloid (*aconitine*), which is represented by the formula $C_{33}H_{43}NO_{12}$; the crystallized bodies obtained formerly by Groves (1860), and by Duquesnel (1871), consisted mainly of this base, but were not perfectly pure.

2. It has happened in one instance that roots purchased as *A. Napellus* yielded only a small quantity of aconitine, and that a large amount of nearly inert base, yielding well-crystallized salts (*picraconitine*) was also present. The preparations usually met with in pharmacy under the name of "aconitine" or "nitrate of aconitine," must necessarily contain this inert base, whenever it was present in the roots employed; and consequently such pharmaceutical preparations cannot be relied on as of uniform physiological potency.

3. Besides *aconitine* and *picraconitine*, *A. Napellus* roots contain another alkaloid (alteration product of aconitine produced during extraction) of lower molecular weight, and incapable of yielding crystallizable salts, or of crystallizing itself. Commercial "aconitine," when not crystallized, is liable to contain this substance as an impurity; but the body examined by von Planta appears to have almost wholly consisted of this amorphous, uncrystallizable substance, which is perhaps iden-

* *Proc. of the Amer. Pharm. Assoc.*, 1876.

tical with, or may contain the body "napelline," and other analogous substances described by other chemists.

4. The physiologically active, crystallizable, alkaloid of *A. Napellus* (*aconitine*) appears to be wholly dissimilar from the crystallizable alkaloid of *A. ferox* (*pseudoaconitine*), although the two are doubtless allied, and are similar in many of their properties. The inactive bitter base of *A. Napellus* (picraconitine) is not identical with Broughton's atisine from *A. heterophyllum*.

5. The use of strong mineral acids and other reagents in the extraction of aconite alkaloids from the roots (as in the older processes of Geiger and Hesse, of Hottot and Liégeois, etc.) is extremely likely to cause loss of crystallizable aconitine by alteration and decomposition; and to this cause is to be attributed the statement of chemists, who have used such processes, that the alkaloid of *A. Napellus* is non-crystalline. Not improbably the "lycoctonine" and "acolyctine" of Hübschmann, from *A. Lycoctonum*, are alteration-products thus formed. The tartaric acid process of Duquesnel * is preferable, but in view of the first rough crystals of base thus produced being impure, and of the difficulty of separating a mixture of the crystallized salts of aconitine and picraconitine, it is desirable that in future the substance employed medicinally should have been prepared and separated from picraconitine (if present) by extracting the mixed alkaloids from the roots by Duquesnel's process; recrystallizing the crude aconitine crystals thus obtained from ether or analogous solvents, so as to separate picraconitine and the other non-crystallizable bodies; converting into a crystallized salt (for which purpose the hydrobromide is well fitted); and finally regenerating the alkaloid (if required in the free state) by sodium carbonate, and crystallizing from ether; in this way a perfectly definite homogeneous substance is obtained, possessing in a high degree the physiological powers of aconite root.—*Journ. Chem. Soc.*, Feb., 1877, 155.

The Value of Mushrooms as Food.

BY THEOD. HUSEMANN.

THE popular use of edible mushrooms and the problem how to facilitate their general employment without risk of poisoning, is a theme which deserves the highest attention of public economists. A valuable article of food, which occurs nearly everywhere in colossal proportions, is at present completely neglected, although it is worthy, on account of its chemical composition, to be placed by the side of meat, the most important nitrogenous food of man. In many portions of Germany the vegetation of fungi, in favorable years, is so prolific that a single person is able to collect in ten or fifteen minutes sufficient food for several families—not to speak of such giant-mushrooms as *Fistulina hepatica*, a single one of which sometimes attains a weight of thirty pounds, capable of furnishing sustenance for a whole family. *Clavaria Botrytis* and *Clavaria flava*, *Boletus edulis* and other allied species occur in such immense quantities, that the gathering of several hundredweights would be a very easy task. The food value of mushrooms has heretofore been made the subject of exhaustive investigations by Kohlrausch and Siegel, who found in 100 parts of *dried Morchella esculenta* 35.18 per cent. of protein, in *Morchella conica*, 29.64 per cent., and in *Helvella esculenta*, 26.31 per cent., besides about 2.3 per cent. of fatty matters, and a considerable quantity of sugar (mannite): in *Morchella esculenta* (dried), as much as ten per cent. In addition, these mushrooms contain a very high percentage of potassium salts, and of phosphoric acid, amounting to 46–49 per cent. of the ash. The following other fungi have also been examined:

Boletus edulis: in 100 parts of dry substance, 22.82 protein; 5.14 mannite; 1.98 fat. The ash contains 50.95 potassa and 20.12 phosphoric acid.

Cantharelles cibarius: 10.68 protein; 23.43 mannite; 1.38 fat. The ash contains 48.75 potassa, and 31.32 phosphoric acid.

Clavaria flava: 24.43 protein; 4.81 mannite; 2.13 fat. The ash: 51.47 potassa, and 35.07 phosphoric acid.

Tuber cibarium: 36.32 protein; 2.48 fat. The ash: 55.97 potassa, and 30.85 phosphoric acid.

Agaricus campestris: 20.63 protein; 1.75 fat; 4.93 mannite; 7.13 fermentable sugar. The ash: 50.71 potassa, but only 15.43 phosphoric acid, most of which is replaced by sulphuric acid.

It is highly probable that age and location produce variations even in the same species, not only as regards the percentage of protein, but also the composition of the ash. But these differences are so insignificant that they have no effect whatever upon the high rank which mushrooms occupy among nitrogenous foods. Kohlrausch compares the most usual of the latter in reference to their percentage of nitrogen, in the following tables:

Protein-substance calculated for	Beef.	Veal.	Wheat bread.	Oatmeal.	Barley bread.	Leguminous fruits.	Potatoes.	Mushrooms.
100 parts of dry substance.	38.69	44.05	8.03	9.74	6.39	27.05	4.85	33.0

This comparison shows that the statement made above, regarding the neglect of one of the most accessible and valuable articles of food, is well supported. It is considered one of the greatest merits of Liebig, that he made the immense quantities of otherwise almost useless South American beef serviceable to man in the shape of extract. The nutritive and therapeutic value of

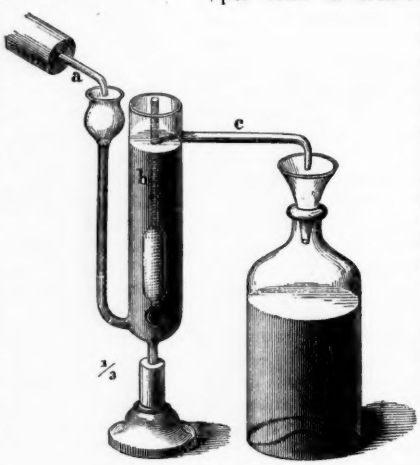
* Duquesnel's process consists in exhausting aconite roots with alcohol acidulated with tartaric acid, evaporating the extract at temperatures not exceeding 60° C. (140° F.), precipitating by sodium bicarbonate, and crystallizing the precipitate from a mixture of ether and light petroleum spirit.

this depends in a great measure upon its percentage of potash-salts and of phosphoric acid; and a simple comparison will show that an equally valuable food may be prepared, in the form of extract, from mushrooms.

This extract, besides, can be prepared so as to retain the peculiar aroma of the mushroom, which is very pleasant for itself, and is even more highly valued as a piquant addition to meats in the form of catsup, while the Fray-Bentos extract possesses a flavor by no means agreeable to all consumers. It is true, that some species of fungi, as *Boletus* (which are by far the most numerous and common), are almost devoid of this aroma, but they are at least free from any disagreeable twang, and, if proper care be exercised to avoid the poisonous ones, the labor of collecting and preparing an extract from them for culinary and therapeutic purposes would richly repay some enterprising pharmacist.—From *Pharm. Handelsbl.*, No. 80.

Mohr's Controlling Receiver.

In distillations it happens not unfrequently that the finished distillate is weakened and perhaps spoiled by subsequent heavier condensed products, unless some precaution is adopted to indicate the moment when the receiving vessel must be changed. To obviate this difficulty, Mohr has devised an apparatus, which he terms "Destillations-hüter,' and which we have translated into "Controlling Receiver," an illustration of which is annexed. It is entirely constructed of glass, and almost explains itself. The condensed distillate flows into the side-tube at *a*, and enters the middle cylinder *b* from below, passing by means of an overflow into the main receiver. The cylinder *b* contains a small hydrometer, comprising a small portion of the specific gravity scale, appropriate to the particular liquid to be condensed. For instance, a small hydrometer, bearing on a scale of two and a half inches the specific gravities from 0.790 to 0.850, is adapted for alcoholic liquids. The whole range of specific gravities occurring in pharmaceutical liquids extends from about 1.900 (sulphuric acid) to about 0.720 (ether), and contains therefore 1180 degrees. The just-mentioned small instrument, which is about four inches long altogether, ranging from 0.790 to 0.850, contains only 60 degrees. The whole range of specific gravities, therefore, divided over such small scales, would require about nineteen or twenty spindles. But this number is in practice unnecessary, because in many cases other criteria are relied upon to distinguish between fractions of a distillate.



Mohr's Controlling Receiver.

Since the condensed product gradually increases in density, it is only necessary to observe the gradual rise of the hydrometer, and to change the main receiver whenever the proper moment arrives.

On Creasote and Carbolic Acid.

Mr. Adolph Grätzel, of Hanover, has published the results of an investigation of the reactions which have been recommended to distinguish carbolic acid from creasote, having received a sample of Morson's creasote for analysis. This latter product is preferred in England, on account of its more agreeable odor, to the continental creasote prepared from beechwood tar. For the purpose of establishing some reliable data for the analysis, the author first examined the behavior of various reagents towards pure phenol and purified beechwood-tar creasote, and afterwards towards a mixture of these latter; but in the latter case he found that a quantity of phenol below 15 per cent. in creasote can hardly be detected. The best method would be, either fractional distillation, or the preparation of a potassium compound by means of a saturated alcoholic solution of potassa, which must be crystallized from ether. In this case the phenol-compound remains in the mother-water, where it may be recovered by separation with an acid, and by subsequent distillation.

His preliminary examination of Morson's creasote having already convinced the author that it greatly differed from beechwood-tar creasote, he subjected it to further study, and found that, on adding to it caustic alkali, it exhaled an intense odor of refined oil of turpentine, which is indeed the peculiar guise of this kind of creasote. Its high boiling point (214°–239° C.), led to the suspicion that there may be present some other oils, which was confirmed by the different odors and different behavior of the various distilled fractions, although it was impossible to separate them from each other completely. The author succeeded in preparing a product entirely identical with Morson's creasote, from pinewood-tar, an operation which is extremely easy and simple, while the preparation of creasote from beechwood-tar, on the contrary, is beset with many difficulties. But while beechwood-tar creasote consists mainly of guaiacol, with only small quantities of cresol, the pinewood-tar—or Morson's creasote lacks this constituent entirely, and should therefore be discarded or rejected for medicinal purposes.*

* The author naturally does not mean to declare Mor-

Pure beechwood-tar creasote must have the following properties: It is a colorless, at most light straw-yellow oily liquid, of spec. grav. 1.080, distilling unaltered between 200°–225° C. Exposure to light and air, even for months, should impart to it at most only a dark wine-yellow, but never a red color, which would be indicative of foreign constituents. It must be entirely soluble in caustic alkali, and on adding water no oily hydrocarbons must be set free. These latter, if present, are very difficultly removable, and possess a very disagreeable odor. It is soluble in 80 parts of cold water, and in less of boiling water, but the excess separates on cooling. It is miscible with 50 per cent. of its volume of glycerine of spec. grav. 1.250. (Morson's creasote is insoluble in glycerine of 1.250.) The above table exhibits the reactions of *beechwood-tar creasote* (which are identical with those of chemically-pure *guaiacol* and *cresol*), *carbolic acid*, and *English creasote*. —*Arch. d. Phar.*, Feb., 1877, 130.

Reactions of Creasotes and Carbolic Acids.

A. *In Aqueous Solution.* To 15 drops of the solution to be tested is added 1 drop of the reagent.

Reagents.	Beechwood-Tar Creasote.	Carbolic Acid.	English Creasote.
Ferric chloride (cryst.), dissolved in 10 parts water.	Blue on first contact, then brown; on standing, orange.	Permanently violet.	Blue on first contact, then olive-green; finally dirty yellow.
On further addition of same.	Dark brown precipitate.	Permanently violet.	Light brown precipitate.
Ferric acetate, dry, in 10 parts of water.	Brown, then with a shade of violet. Lastly brown precipitate.	Brown and clear solution.	Brown and clear solution.
Ferric sulphate, dry, in 20 parts of water.	Blue, then with a shade of violet. Lastly brown precipitate.	Permanently violet.	Grass-green on first contact; then yellow precipitate.
Plumbic nitrate in 10 parts water.	Clear; no reaction.	Opalescence; on standing, small deposit.	Opalescence; on standing, small deposit.
Stannous chloride in 10 parts water.	White precipitate, soluble in excess of reagent.	Small precipitate, insoluble in excess of reagent.	Small precipitate; insoluble in excess of reagent.
Plumbic acetate, neutral, in 10 parts water.	White precipitate, soluble in excess.	Small precipitate, soluble in excess.	White precipitate, only partially soluble in excess.

B. 1 Part Dissolved in 10 Parts of 92 Per Cent. Alcohol.

Aqueous solution of ferric chloride with one drop of alcoholic solution.	Blue on first contact, then green.	Violet on first contact, then green.	Green on first contact, then fine azure-blue.

C. Carbolic Acid and Creasotes unmixed with any Solvents.

Saturated alcoholic ferric chloride solution with 1 drop.	Dirty violet.	Greenish-yellow on first contact, then brown.	Green on first contact; then a light mud-brown.
With several drops.	At once green.	At once green.	At once green.

son's creasote inert or injurious, but he implies that the previous experiences of continental physicians, which are based on beechwood-tar creasote, make the use of the English creasote undesirable.

Oxide of Zinc in India-Rubber Goods.

In a recent number of the *Deutsche Industrie Zeitung*, in regard to the use of oxide of zinc in India-rubber, it is stated that resort to such rubber tubes and stoppers for nursing-bottles was proven so injurious to health that the agitation against it has had the effect of driving it from the market.

B. Tollens, of Göttingen, has, however, found that most of the toys, dolls, animals, etc., are still made of rubber with oxide of zinc in it. A case where a child was taken sick after playing with an India-rubber doll, and putting it in the mouth frequently, and where the doll, on being thrown into vinegar, became covered with an incrustation, probably acetate of zinc, first directed Tollen's attention to the subject. He made an analysis of the doll, and found that it contained not less than 68.58 per cent. of oxide of zinc. Some lime, oxide of iron, and phosphoric acid were also discovered. Another doll, purchased in Brunswick, and especially recommended as "harmless," gave 57.58 per cent. of ash, which consisted of oxide of zinc, with traces of impurities—lead, iron, lime, and sand.

The Pharmacopœia Test of Quinia Sulphate, and the Presence in the latter of Cinchonidia.

Dr. B. H. Paul has contributed some important criticisms on the test adopted in the British Pharmacopœia, for determining the purity of quinia sulphate.* This test depends upon the fact that ether is capable of dissolving quinia freely, but cinchonidia [and chinchonia] sparingly. The proportion of ether in the Pharmacopœia is half a fluid ounce to 10 grains of the quinia sulphate, and the absence of any separation of alkaloid crystals after the addition of ammonia and ether, is stated to be evidence of purity. This, however, is not the case. Upon mixing one decigramme (0.1 gm.) of cinchonidia sulphate, with about 2 c.c. of ether, and adding ammonia sufficient to separate the base, the presence of the insoluble alkaloid becomes sufficiently distinct. But when the same quantity of cinchonidia salt is mixed with a large proportion of quinia, the result is different, and it appears that the presence of quinia increases the solubility of cinchonidia in ether, or at any rate prevents the latter from separating in a crystalline state. Dr. Paul has applied the Pharmacopœia test to quinia sulphate, which he ascertained by other means to contain 10 per cent of cinchonidia sulphate; but the mixture remained perfectly limpid, and any one applying the test would say that the salt was absolutely pure. The limit, within which cinchonidia cannot be detected by this process in quinia, is therefore much higher than has been heretofore supposed. Some authorities give this limit as ½ per cent., others as 2 and 3 per cent.; but Dr. Paul is inclined to think that less than 10 per cent. cannot be detected. A mixture consisting of 0.5 gm. of quinia sulphate, and 0.05 gm. (10 per cent.) of cinchonidia sulphate does not show a particle of crystallization.

In applying the Pharmacopœia test, although there would be nothing strictly wrong in using the proportions indicated in the British Pharmacopœia —half a fluid ounce of ether to 10 grains of the sulphate to be examined—this is very much in excess of what is needed. [The United States Pharmacopœia only prescribes 60 grs. of ether, = 84.4 minims, for 10 grains of the sulphate.] Dr. Paul states that he has made many mixtures of the two salts, and that even the presence of 30 per cent. of cinchonidia might pass unnoticed. But even with much smaller quantities of ether, it is impossible to rely on its use.

The plan which he has adopted for detecting the presence of cinchonidia is that of fractional crystallization, which he finds to give a speedy indication of its presence. About 30 grains of the alkaloid salt are put into a capsule, a fluid ounce and a half of water are added, and heat is applied until the salt is nearly dissolved. The water is insufficient to dissolve it entirely; but when heated up to the boiling point, the greater part of the quinia sulphate is dissolved. Upon cooling, most of the latter is deposited, and the more soluble cinchonidia sulphate remains in solution. The liquid portion is then a saturated solution of quinia sulphate, together with any cinchonidia that may be present. By applying the test to that liquid, an indication may be got of cinchonidia, if present. This is a modification of the test which has been very much used on the Continent, known as *Kerner's* test, and the one adopted in the German Pharmacopœia. The latter consists in adding 20 c.c. of distilled water, at 15° C., to 2 gm. of the salt, briskly shaking, and filtering after 30 minutes at 15° C. Five c.c. of the filtrate are put into a test-tube, and 7 c.c. of ammonia are poured carefully on top. The tube is closed with the finger and gently reversed, when either immediately or in a short time the contents of the tube will form a perfectly limpid solution, if the salt was pure. This test is very reliable and founded on very sound principles, which are these: Quinia sulphate is sparingly, but cinchonidia sulphate readily soluble in water, of which the former requires 750, the latter 100 parts; so that putting these two facts together, a very good indication is obtained as to the presence or absence of cinchonidia. The defect attaching to this test lies in its application. If, for instance, a sample of quinia sulphate, or a mixture containing 1 per cent. of cinchonidia sulphate, be treated with cold water, and the cold filtrate be treated with an equal volume of ammonia (spec. gr. 0.920), the result is a perfectly clear solution. But when the same salt has been treated by boiling, and even when treating the cold liquid with ether, the cinchonidia will separate.

In an examination of nine samples of quinia sulphate, Dr. Paul found cinchonidia present in all cases, varying in amount from 1 to 10 per cent. (See below.)

Between these two extremes of 1 and 10 per cent. there is a very wide margin, and Dr. Paul thinks that the circumstance, that such quantities may be overlooked in testing quinia, is important both to manufacturers and to pharmacists, who are liable to be placed in circumstances of difficulty on account of this impurity. In the first place, a manufacturer, who produced a pure article, might be prejudiced in tendering for contracts by being placed in disadvantageous competition with other persons, who offered quinia of the character mentioned, containing 10 per cent. of cinchonidia, a proportion amounting, at the present prices, to a difference of ten pence on the ounce, which is a large extra profit on the quinia.

* The test referred to is this: 10 grains of quinia sulphate, with 10 minims of diluted sulphuric acid and half a fluid ounce of water form a clear solution, from which ammonia throws down a white precipitate. This redissolves on agitating the whole with half a fluid ounce of pure ether, without the production of any crystalline matter floating on the lower of the two strata into which the agitated fluid separates on rest—indicating absence of quinidia and cinchonia. The upper stratum of fluid, if entirely removed by a pipette and evaporated, leaves a white residue, which, when dried in the air without heat, weighs 8.6 grains, and is pure quinia.

The process employed by Dr. Paul for the analysis of the nine samples was as follows: Four or five grammes of the dried salt were dissolved in 80 to 150 c.c. of boiling water; when cold, the clear liquid was removed from the crystallized quinia sulphate, and shaken with ether so as to leave a distinct layer undissolved. On the addition of ammonia in excess, the alkaloid separated was in most cases only partially soluble in the ether; with the samples containing least cinchonidia, the whole of the alkaloid was at first dissolved by the ether, but after the lapse of a few hours the cinchonidia was deposited in the form of crystals, which were collected on a filter and weighed. The quinia sulphate, which separated on cooling the hot solution, was again treated as at first, and the mother-liquor again mixed with ether and ammonia. In this way a further quantity of alkaloid insoluble in a moderate proportion of ether was obtained, and by repeating the process a third time another small quantity was extracted. The samples were all dried at 212° F. in a weighing glass capable of being perfectly closed immediately on being removed from the steam-bath. The results in all cases indicate the minimum quantity of cinchonidia which the process could indicate:

Fig. 1.

Fig. 2.

A Minim- or Drop-Filter.

Sample.	Water of Crystallization.	Cinchonidia Sulphate.	
		Dry.	Equal to Crystallized.
1	15.05	7.98	9.19
2	15.51	7.51	8.64
3	14.90	4.22	4.86
4	15.04	5.92	6.81
5	14.20	.99	1.14
6	15.15	3.16	3.64
7	13.67	4.90	5.64
8	8.10	4.55	5.24
9	10.37	5.44	6.26

—*From Pharm. Journ. and Trans.*, 1877, Feb. 10.

Determination of Albumen in Urine.

According to J. Stolnikow, urine containing albumen is diluted with water, until a sample poured upon some nitric acid contained in a test-tube produces still a faint white ring at the point of contact, after a lapse of 40 seconds. The number of *volumes* of water, added to the volume of the urine (which may be taken as 1) is divided by 250, and the quotient will be the percentage of albumen in the urine. This relation has been established and confirmed by gravimetric determinations.—*Chem. Central-Bl.*

To distinguish between Madder and Artificial Alizarin as Dyes for Cotton.

The fabric is first saturated with solution of permanganate of potash, and then dipped in an acid. By this treatment madder-red becomes yellowish; artificial alizarin, on the other hand, gives a rose-red color. The difference may be shown more decisively if the article is dipped first in bichromate of potash and then in a saltpetre solution; in this case the madder dye is completely discharged, whilst the artificial alizarin remains rose-red as before. If boiled for one minute in soda-lye of 18° B., and then washed with hydrochloric acid of 20° B., the madder red becomes a dirty orange color, the alizarin a beautiful bright yellow. To make the permanganate solution, one gramme of the salt is dissolved in 200 c.c. of water; for the further treatment, hydrochloric acid of 3° B. is used. After another dip in the first solution, and washing, it is finally treated with a solution of oxalic acid of 1° B. The bichromate of potash solution is 10 grammes of salt in 200 c.c. of water, and the solution of nitre must have a density of 50° B.

A Minim- or Drop-Filter.

The annexed cut represents a contrivance for obtaining perfectly clear and filtered drops of a liquid, such as collyria, opium or arsenic preparations, which the patients are required to take by drops, and solutions of alkaloidal salts used in hypodermic injections. A small vial, either square, as in *A*, or round, of the capacity of about 1 fl. oz., is provided with a small india-rubber cap *B*, having somewhat the shape of an olive; the upper extremity of this bears a small glass tube, *C D*, of very fine calibre, and containing in the small bulb *C* a pellet of cotton. When using it, it is merely inverted, and by a gentle pressure upon the rubber-cap the desired number of minims obtained. The cotton acts not only as a filter for the liquid, but likewise for the air which enters the vial.—From *Rép. de Pharm.*, 1877, 186.

Examination of some Commercial Citrate of Iron and Quinia.

In connection with a preceding article, we give an abstract from a subsequent paper by the same author (Mr. B. H. Paul), on the percentage of alkaloids found in commercial citrate of iron and quinia. The British pharmacopœia requires this to contain 16 per cent. of quinia (dry), and the application of the test, as generally performed, is more apt to yield figures in excess than below the true percentage, owing to the reluctance

with which the precipitated quinia parts with its water. Mr. Paul examined three samples of the salt. The first was contained in a 1 oz. bottle, bearing the label of a wholesale druggist, in London, with the name and address of the firm, and describing the preparation as "Citrate of Iron and Quinine, British Pharmacopœia." On testing this sample according to the official directions, it gave a precipitate amounting to 9.3 per cent., instead of 16 per cent., or little more than one-half of what it should have been. On testing this sample by another method, and carefully extracting the alkaloid by ether, the total amount of the dry alkaloid was 8.96 per cent. A further examination of this alkaloid showed that it was not entirely quinia, but that nearly one fourth of it consisted of cinchonidia, with some amorphous alkaloid and cinchonia. The actual proportions were as follows:

Quinia	6.80
Other alkaloids	2.16
Total	8.96

Sample No. 2 was also in a 1 oz. bottle, and bore a similar label and seal as No. 1. By the Pharmacopœia test this sample assayed 11.7 per cent. When tested with ether, the dry alkaloid extracted in this way amounted to 9.7 per cent., and on further examination of this alkaloid, it proved to contain, as in the previous instance, other alkaloids besides quinia; the actual figures being as follows:

Quinia	7.08
Other alkaloids	2.62
Total	9.70

Sample No. 3 was received in a paper package, and had already become somewhat damp. When tested by the Pharmacopœia method it gave a precipitate which in drying gave indications that it was not quinia. This precipitate amounted to 8.87 per cent. The alkaloids extracted from this sample by treatment with ether and thorough drying amounted to 6.96 per cent., and this consisted chiefly of amorphous alkaloids, namely:

Quinia	1.60
Other alkaloids	5.36
Total	6.96

The fact that in two cases the preparations here referred to professed to be in accord with the requirements of the Pharmacopœia, renders these results especially noteworthy.—*Pharm. Journ. and Trans.*, April 11, 1877.

Short-Armed Analytical Balances.

In view of the favorable comments made by analysts upon the superiority of short-armed analytical balances over those at present in use, we insert here a description of the balance originally designed by Prof. Mendelejef, of St. Petersburg.*

The peculiarity of this balance is that it has very short arms. It is considered that this arrangement will save much time in weighing, whilst at the same time it will give results quite as satisfactory as those given by balances of precision, with arms of greater length. Mendelejef's balance was constructed by M. Salleron, of Paris. Its beam is stated to be only 12 centimetres ($4\frac{3}{4}$ inches) in total length, and from the drawing its height would appear not to exceed 20 centimetres ($7\frac{1}{8}$ inches). All the parts of the beam are of aluminium bronze, so as to diminish its weight. The pans of the balance are suspended in the ordinary way by steel knife-edges, bearing on rock crystal planes. Its centre of gravity is regulated by the usual screw placed above the axis of suspension of the beam. The principal disadvantage of the beam of a balance being very short is, that its oscillations are necessarily of very small extent, and consequently small differences in weights compared are not so easily observed. To avoid this, instead of following the movements of the beam by means of the ordinary index-needle and divided arc, M. Mendelejef has fixed to each end of his beam a ring, having stretched across it very fine cobweb threads. Behind the ring is placed a micrometer M (Fig. 1), divided into tenths of a millimetre. By means of a small telescope the slightest movements of the beam can then be easily followed. With this arrangement it is found that when the balance has one kilogram in each pan, an additional weight of one milligram to either pan causes an inclination of 15 micrometer divisions, so that the error of a kilogram can be thus determined to $\frac{1}{15}$ milligram. The principal objection to this method is that it requires the observer to stand in close proximity to one side of the balance, so that there is a tendency to the temperature of the beam becoming unequally affected by the greater heat of the observer's body. One division on the micrometer scale of this balance is equivalent to 0.07 milligrams, while in the finest balance hitherto constructed—the Kilogram balance, constructed by Œrtling for the comparison of weights of one kilogram—one division is equal to 0.15 milligrams.

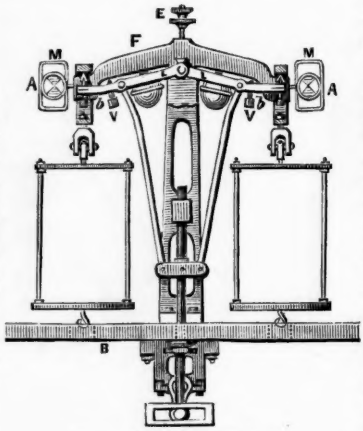


Fig. 1. Mendelejef's Balance.

Mendelejef's balance is mounted on a column of

* *Bull. de la Société d'Encouragement de l'Industrie Nat.*, May, 1875, p. 241. *Pharm. Journ. and Trans.*, March 11, 1876, p. 725. *Proceedings of Am. Pharm. Assoc.*, 1876, 50, whence we have the cuts. Bunge of Hamburg, and Wolters of London, manufacture less complicated short-armed balances, which have been further improved by F. Frerichs and Arzberger (*Annal. d. Chem.*, 178, 365, 382).

platinum. Its size is so small that it can be covered by an ordinary bell receiver, which thus allows the weighings to be made in a vacuum. The capacity of the bell receiver is so small (about 2.000 c.c., or 120 cubic inches) that it admits of rapid and easy exhaustion. An arrangement for putting the beam in motion, or of arresting its oscillation, a little different from that generally adopted, is introduced into this balance. M. Mendelejef finds that by the ordinary construction, which consists of a supporting horizontal arm or cross-piece for releasing the arms of a balance, there is a tendency to lateral displacement of the agate bearings upon the steel knife-edges, with an occasional slipping of the bearings. To prevent this serious fault, he substitutes for the horizontal arms two levers, L, L (Fig. 1), jointed at the axis, placed in the small column supporting the beam. Near the extremity of each of these levers are firmly fixed screws, the conical points of which enter corresponding conical holes in the beam. By this arrangement all the points of the screws and the bottoms of conical holes continue in contact, without stopping, in all positions of the beam during its oscillations.

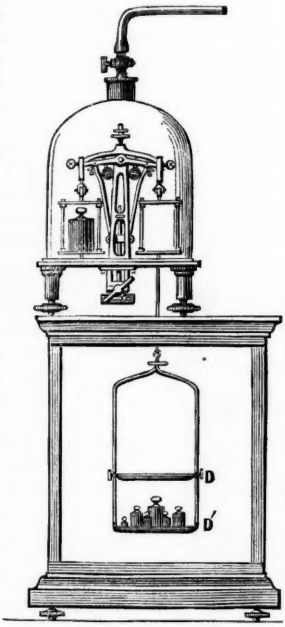


FIG. 2. Mendelejef's Balance.

Reduced to the dimensions already stated (12 centimetres in length of beam), the balance could not be used in weighing bodies of large volume, as there is no room for them in the small bell cover. It may, however, be used for the purpose of weighing bulky articles by employing an additional apparatus, and placing the balance on top of an ordinary glass balance case, as shown by Fig. 2. From underneath one of the pans of the balance is suspended by a long wire a double pan, D D′, inside the glass case. Upon the lower pan, D′, is placed a series of weights, from one kilogram to the fraction of a milligram, the beam being counterbalanced by an equal weight placed in the pan suspended inside the bell cover from the other arm. The body of large volume to be weighed is placed in the upper pan, D, and weights are removed from the lower pan, D′, until equilibrium is restored. The weights thus removed represent the weight of the body weighed.

Jaborandi in Bright's Disease.

EDWARD T. BRUEN is physician to the Philadelphia Hospital, and has there noted the effects of jaborandi when administered in cases of Bright's disease. Seven cases are reported in the *Medical Times* of April 14th; three of them in detail. Two drachms of the drug in infusion were given every other day, and the effect in every case was to relieve the distressing symptoms in a marked manner. Dr. Bruen declares that he knows of no other agent which will afford so great relief. The steam-bath cannot generally be substituted in its place, and some cases were relieved by it when the steam-bath had entirely failed. He writes in the hope that the profession may be induced to make use of the drug, saying, in conclusion, that after some years' experience in the hospital in the treatment of Bright's disease, he has never had so favorable results from any other drug, or plan of treatment, in the management of this class of affections.

New Researches on Peptone.

THE chemical relationship of peptone to fibrin has been the subject of various investigations. Maly and Thiry obtained results which led them to conclude that both substances differed but little, if at all, in chemical composition, while Möhlenfeld found in peptone a considerably less amount of carbon and hydrogen than in fibrin. In order to arrive at more decisive results, A. Kossel prepared a standard peptone solution, which was divided into two portions, one of which (α) was treated with argentic oxide to remove chlorine. The peptone was now precipitated from both portions by alcohol, and each product analyzed. The percentage composition of the peptone from the original solution was found to be: C 49.08—H 7.00—N 15.17—S 1.16—O 27.56, while that of the other portion (α) was C 45.93—H 6.71—N 15.45—S 0.9—O 31.01. It is evident, therefore, that the treatment by argentic oxide has caused a difference in composition; and both formulæ show a greater discrepancy from the composition of albumen, than had been found by former investigators.—*Pflüger's Arch.*, 13, 309.

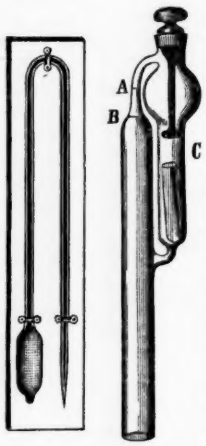
Sophistication of Officinal Roots.

A SHORT time ago Mr. E. M. Holmes, Curator of the Museum of the Pharmaceutical Society of Great Britain, pointed out the frequent admixture of the root of *Imperatoria Ostruthium* (masterwort) with aconite root obtained from the Continent of Europe. In one parcel he found about five per cent. of the spurious root; and although this quantity is not large enough to seriously impair the activity of the remaining 95 per cent. of aconite, yet he suspects that the percentage may be occasionally greater. This supposition is in a measure confirmed by a report made by Mr. E. Merck, of Darmstadt (*Pharm. Zeit.*, 1877, No. 27), who found almost invariably aconite root as an admixture in parcels of the root of masterwort. In many parts of Europe this is a favorite popular remedy, but, according to Merck, it is im-

possible to find in the market any lots free from admixtures. The most common of these are the rhizome of veratrum and the tubers of aconite, besides gentian root (chiefly from Gentiana punctata, G. Pannonica, and G. purpurea), pimpinella, meum, and bistort root. "Whoever has once witnessed," says Mr. Merck, "the collection and drying of medicinal roots, as practised by the Alpine 'root-diggers,' will have no occasion to wonder at the frequent strange admixtures. There you may see these mock botanists sauntering forth on an expedition to dig gentian root,* and collecting anything which can be made useful, or will sell in the market. This omnium-gatherum is then dried at home upon hurdles or upon a large hearth, or perhaps in the sun. When dry the heaps are sorted, and how slovenly this is done, and how frequently things are thrown upon the wrong heaps, our experience has shown. Wholesale dealers have no time, nor would it pay them, to overhaul each parcel or bale of drugs and herbs; but those who desire to use them—manufacturing chemists and apothecaries—cannot afford to shun this task."

Esbach's Ureometer.

A NEW apparatus for the estimation of urea has been devised by Dr. Esbach, of Paris, which is figured and described in the *Bull. Gén. de Thérapeutique* (Feb. 15). The apparatus, which is called by the inventor *analyseur gasométrique*, consists of two parts, a generator *C* and a gasometer *B*. The gas, which is given off by the reaction of the materials placed in the generator, is carried to the receiver through the tube *A*. The generator has a bulb blown upon it at its upper third, is closed at the bottom, where it is connected with the receiver by a small solid glass bridge, and terminates above in a rather capacious neck, bearing a *very* accurately ground stopper. The latter is elongated, as shown in the cut, and has a knob-shaped end. When using the apparatus, it is immersed into a beaker of water—having at the bottom a contrivance into which the tube *B* may fit upright, so as to be immovable in all directions, except up and downwards—to such a depth, that the level of the water, measured by the lower line of the meniscus, stands at *A*. The reagent is then poured by means of a small glass-funnel into the generator, so as to fill the latter up to the commencement of the bulb. As the apparatus can be used for any determinations, where the amount of a substance is estimated from the volume of a gas given off, the reagent will vary in different operations; in the case of urine, however, the reagent best suitable is a solution of sodium hypobromite. The necessary quantity of urine (for this apparatus 1 cubic centimetre) is placed into a small tube of lesser diameter than the narrow part of *C* (see cut), the stopper removed and seized with the right hand, the tube inserted into *C* by means of the thumb and index-finger of the left, but without letting go of it, then the knob-like end of the stopper placed over its orifice, and by a dexterous movement the tube pushed down, while at the same moment the ground surfaces of stopper and neck meet and make the apparatus air-tight. The reaction begins at once, with considerable violence, and in order to relieve the pressure, the immersed open lower end of *B* is lifted up in the water (but not out of it), whereby the suspended column of water acts as an aspirator. After about one minute the reaction is finished, the tube *B* is again depressed in the water, until the level of the latter is the same inside and outside of the tube, and the degrees marked on the tube read off. These correspond to certain quantities of urea, determined with care experimentally, and properly corrected for temperature and pressure by means of a *baroscope*. This is a variety of barometer, consisting of a curved tube which carries a bulb on one end containing a chemically inert gas and a drop of water above a column of mercury, thereby imitating the conditions which exist in the ureometer.



The two instruments, ureometer and baroscope, must be used together, just as we use a thermometer in conjunction with a hydrometer, and the true percentage of urea is found by consulting the tables, which accompany the instruments and are calculated for all possible degrees which either of them are likely to indicate.

Preparation of thin Pencils of Silver Nitrate.

VERY thin pencils of caustic, such as are sometimes required for intra-uterine applications, may be prepared, according to A. Huber, in the following manner: silver nitrate is fused in a capsule, and the liquid drawn up, by slow and cautious suction, into a glass tube, the calibre of which is a trifle larger than the required diameter of the pencil. Especial care is to be taken that no cavities filled with air-bubbles are produced in the contents of the tube. When entirely cold, the glass tube is warmed by turning over a spirit-lamp, until the outer surface of the stick has become soft, when it may be easily pushed out by means of a knitting-needle. With a little practice, very handsome pencils, of considerable length, may be obtained in this manner.—*Schweiz. Woch. f. Pharm.*, 1877, 103.

* The right of digging gentian in many portions of the Swiss and Tyrolean Alps is acquired by a regular lease.

On the Manufacture of Methylic Ether.

METHYLIC ETHER, C_2H_6O, was first obtained in 1834 by Dumas and Peligot, through the action of sulphuric acid upon methylic alcohol or wood-spirit. At common temperature it is a gas, becoming liquid at −30° C. (−22° F.) under ordinary pressure, and is colorless. Its vapor is visible in the medium in which it volatilizes, owing to its great mobility. It has an agreeable apple-like odor, burns with a brilliant flame, and is soluble in fatty oils, which circumstance is of importance, as such a mixture may be used as a refrigerant lubricant in machines. Caoutchouc is but little affected by it; this may therefore be used as a packing in the apparatus used for its condensation. Mr. Tellier, who prepares methylic ether on the large scale for manufacturers of ice and other purposes, uses the following process to obtain it in a liquid state: A given quantity of sulphuric acid is mixed with a little more than its own bulk of anhydrous methylic alcohol until the mixture has a density of 34° Baumé. The mixture is heated in a retort to a temperature not exceeding 125–128°, and the escaping vapors are led through a series of absorbers, the first of which, containing solution of caustic potassa or soda, absorbs carbonic and sulphurous acids; and the second, containing calcium chloride, dehydrates the ether-vapors. The latter are then conveyed into a compression-pump, from which they pass through the cold condensers in a liquid form. This product is then sent to the market in metallic cylinders.

The process may be carried on nearly continuously by heating the first charge, at a temperature not exceeding 128° until all ether-formation ceases, then cooling, and adding to the residual liquid, which has a density of about 45° Baumé, as much fresh wood-spirit as will reduce it to 34° B. This may be continued as long as the sulphuric acid retains its proper density.—*Arch. der Pharm.*, Jan. 1876, 57.

Podophyllin in Habitual Constipation.

DR. ROUSSELET publishes an article on this subject in the *Gaz. des Hôp.*, in which he attributes the ill-success which has frequently attended the use of this remedy, to the employment of a poor preparation. He thinks the treatment should extend over two to three months, according to the duration of the constipation, in order to induce regular action of the bowels at a certain time of the day. Dr. R. begins with one pill of a centigramme (gr. $\frac{1}{6}$), increasing to two if necessary, and continuing the amount daily during fifteen days. He then gives it every other day for a week, then every three days, and so on, increasing the interval every week or so. Should irregularity again supervene, he recommends the daily dose, diminishing it again gradually as before. The best time for taking the pill is upon sitting down to dinner; and the patient should endeavor to get into the habit of going to stool just after breakfast.—*Medical Times.*

Podophyllin in Hemorrhoids.

A RECENT number of the *Gazette des Hôpitaux* contains a communication by Dr. Rivière, in which, after agreeing with Dr. Rousselet in his high estimate of the value of podophyllin in habitual constipation, he goes on to express surprise that the latter had said nothing about the virtues of this drug in hemorrhoids. The action of the drug is simply to cause a soft passage on every occasion. The result is remarkable, but only temporary. The treatment must be kept up for many months in order to gain any permanent benefit.—*Medical Times.*

A Trial of Xanthium Spinosum.

SOME experiments recorded in the *Archives Vétérinaires* appear to demonstrate what has been feared from the first, that *Xanthium spinosum*, which has already begun to figure in the brokers' catalogues, will have to be dismissed to the limbo of unsuccessful specifics against hydrophobia. The experiments were made in the veterinary school at Alfort, by MM. Trasbot and Nocard. Eleven dogs were carefully inoculated with saliva from another suffering from hydrophobia. To six of these were administered doses of xanthium in proportion to their weight, whilst the other five were left to the unrestrained virulence of the saliva. The first dog began to show signs of madness on the thirteenth day after inoculation, and was one of those to which xanthium was administered. It died on the fourteenth day, after having taken 125 grms. of the powder. During the next fifty days seven more dogs died, but without presenting hydrophobic symptoms sufficiently decided to be taken into account. On the eightieth day another dog died, with all the symptoms of hydrophobia. This beast had been bitten also by the first dog that died therefrom. It weighed only 4.5 kilograms, and had 10 grains of xanthium powder administered to it daily for seventy-five days after inoculation. The experimenters therefore express an opinion that *Xanthium spinosum* has not the property of curing hydrophobia, or of preventing its development after either artificial or natural inoculation.—*Pharm. J. and Trans.*

Easy Method of Testing Adulterated Flour.

THE sale of adulterated flour seems to have assumed alarming proportions in Europe, so as to compel the sanitary authorities to interfere in the matter. Flour containing as much as ten per cent. of chalk, plaster of Paris, and even barytes has become a regular article of export from Holland. Prof. C. Himly has devised a very simple method for detecting such adulterations, based upon the varying specific gravities of pure flour and the usual adulterants. The specific gravity of limestone is 2.57–2.78; of chalk, 2.23; of barytes, 4.48; of gypsum (unburnt), 2.32; (burnt), 1.81; of marble, 2.72; and of bone-flour, 1.65. On the other hand, chloroform has a specific gravity of of 1.53, being therefore lighter than any of the

before-mentioned substances (none of which it dissolves), but much denser than ordinary flour or starch. A small quantity of the suspected flour is introduced into a test tube, the latter filled to three-fourths with chloroform, and the whole well shaken. On allowing the mixture to stand at rest for a while, the mixture will exhibit several layers. The flour will collect just under the surface of the chloroform in the upper part of the test tube, while the accompanying impurities will be found deposited at the bottom. A very slight deposit, however, is found even in unadulterated flour; but this has a gray or brownish black color, and is probably only detritus from the millstone. It is self-evident that this method may be used also for quantitative purposes.—From *Zeitsch. d. Oest. Ap., V.*, 1875, p. 559.

Treatment of Sick Headache.

Dr. Kinsman says: I prescribe to patients, when they arise in the morning and find one of their headaches approaching, thirty grains of bromide of potassium, dissolved in a gill of cold water. This is to be drunk at once, and complete quiet maintained for an hour; at the end of this period, if the pain still continues, the dose is repeated, and rarely do I find a third dose required. This is administered if demanded. This course produces a cessation of pain in all cases in which directions are carried out. The capacity for study or labor to full extent is not restored, but there is a relief from suffering. The fluid extract of ergot is also used with some success, but it is liable to cause vomiting, and it is so distasteful to many that they are unable to use it. Tincture of digitalis also seems in some cases to be of value.

In the closing stages of hemicrania I have found morphine valuable, but when administered early I have never derived benefit, its use being followed by distressing sickness. Codeia in half-grain doses every hour produces the best effect in my case. Whiskey, or some other form of alcohol, was recommended by Anstie, and by Inman, but in all cases, if the quantity taken is followed by the first symptom of narcosis, the patient is made worse. This condition is indicated by numbness of lips and flow of saliva. This mode of treatment is based on the view that alcohol has a two-fold action: primarily stimulant, secondarily narcotic. This agent can be so administered as to act only as a stimulant. The application of heat and cold, externally, is also of value. Heat I have most commonly found useful.—*Ohio Med. Recorder.*

On Timbo: Its Properties and Chemical Composition.

In 1846 Mr. Stanislas Martin first described, in the *Bulletin Général de Thérapeutique*, a substance called guarana, much used in Brazil, where it was obtained from a plant belonging to the family of *Sapindaceæ*. In 1817 Cadet de Gassicourt, and in 1822, Mérat mentioned this substance without indicating its origin. At the present time the *Guarana* or *Paullinia sorbilis* of Linnæus, occupies a place in our materia medica owing to its richness in caffeine.

Plants belonging to the *Sapindaceæ* are very common in Brazil, and comprise both trees and climbing shrubs. Some have such poisonous properties that the natives use their juices as arrow-poisons, while others are innocuous or simply narcotic. The Timbo (*Paullinia pinnata*, Lin.), belongs to the latter class. The Timbo is a tree found in Brazil, Mexico, the Antilles, and in Guinea. The leaves are composed of five leaflets, oval, lanceolate and crenellated. The flowers are polygamous, dicecious, and have five, or rarely four parts; an imbricate calyx; four unequal petals furnished with scaly appendices; eight stamens situated around a disc with notched edges; ovary with three cells, surmounted with three styles, and containing three seeds, and commonly one which has aborted, which is provided with an arillus and contains under its envelope an embryo without albumen. The bark of the timbo root is the only part used in Brazil; it is of a yellowish-gray color, and variable in length and thickness. In transverse section one observes, from outside inwards, 1st. An exterior layer of periderm, composed of numerous masses of corky or woody tissue. 2d. On reaching the central parenchyma one recognizes here and there small masses of hardened cells (that is to say, having early incrustations); this element is frequent in the bark and in this situation. 3d. A very thick layer of cortical parenchyma, in which the cells are distended with starch. 4th. In the midst of this parenchyma cells containing a resinous material. 5th. Bundles of liber arranged in interrupted lines and mixed with rays of the medulla. This bark is with difficulty reduced to powder. Five grammes

Timbo (*Paullinia Pinata*, Lin.).

of this bark will absorb, cold, fifteen grammes of distilled water.

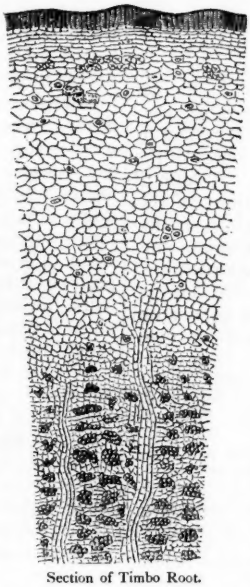
The bark of timbo root has an agreeable aromatic odor, slightly resembling musk. In Brazil it is only employed externally. Poultices are made from it with boiling water, which are applied to the side in affections of the liver. It often causes intense eruptions, in which case the application is discontinued.

M. Martin has isolated from the root-bark, starch, resin, an essential oil, chlorophyll, tannin, an organic acid, traces of glucose, and an alkaloid to which he gives the name of "timbonine."

By first treating the finely powdered bark by carbon disulphide, the extraction of the alkaloid and other principles is facilitated. The sulphate of timbonine crystallizes in white needles.—*Bulletin Gén. de Thérap.*

The Best Means for Securing the Good Effects of Medicines in the Cure of Disease.

In the *American Medical Bi-Weekly* of April 28th is a paper by J. W. Compton, M.D., on a subject which, although often written upon, still merits more attention than it commonly receives. Most medicines, to be of any value, must be soluble and capable of being taken into the circulation. Dr. Compton believes that much unsuccess in the administration of remedies may be due to the fact that they are often administered in such form that the fluids in the alimentary tract are not capable of dissolving them, and he quotes a number of instances in which an examination of the dejections disclosed the presence of pills entire. It is probably true that some pill-masses, however readily they may be soluble or miscible in water, or in the digestive secretions in a state of health, are quite apt to retain their form and ingredients when taken in sickness.



Section of Timbo Root.

Erythroxylon Coca in the Treatment of Febrile Diseases.

Dr. McBean, of Newcastle, refers to the observations of Dr. Ringer, showing that in all febrile diseases, with the exception of yellow fever, the amount of urea formed is abnormally increased, and that as urea represents the wear and tear of the frame (tissue metamorphosis), it may be regarded as affording, in fever, not only an index of the severity of the disease, but also a direct clew to an exceedingly important line of treatment. Dr. McBean submits that as throughout the duration of a case, say of typhus fever, there is present a specific morbific agent which so influences the sympathetic nervous system as to produce or permit an amount of tissue metamorphosis (indicated by the increased quantity of urea excreted), not only incompatible with health, but most probably productive of the various febrile phenomena, the sum of which constitutes this disease; therefore, to restrain such metamorphosis until the morbific agency has ceased to exist, is clearly indicated as the most desirable end to accomplish in treatment. To accomplish this end he believes we possess a very efficient remedy in coca, the dried leaves of the *Erythroxylon Coca*. Dr. McBean gives several cases in which good recovery took place after the use of coca. He states that he has also found coca of great service in both acute and chronic pneumonic phthisis. Where there is much febrile excitement it lowers the temperature, and restrains or materially alleviates the distressing perspiration.—*Br. Med. Jour.*

Metallotherapy.

MM. Charcot and Burg recently performed some experiments at the Salpêtrière, in which three patients —one cataleptic, the others hysterical—were subjected to the application of different metals to anæsthetic surfaces. While the eyes of the patients were bandaged, pins were passed through the flesh of paralyzed limbs without their becoming aware of it. Subsequently, plates of copper or gold being applied for a few minutes, sensibility returned, and the slightest prick caused them to scream.

Chamomile Fumes in Hay Fever.

Drs. Barnes, brothers, of Illinois, mention a simple remedy which has been used with excellent results by them in a number of cases of hay fever, after all the usual methods of treatment had failed. The remedy is the inhalation of the smoke from burning the flowers of chamomile (Anthemis nobilis). The fumes should, of course, be brought into contact with every portion of the nasal passages, in order to receive the full benefit of the drug. A few coals on a plate, and the flowers dropped on them, is a good way for using it.

To Lessen the Pain of Blisters.

M. Ernest Besnier says that the pain attending a blister may be reduced to a minimum by following this plan: Apply the blister early in the morning; after a few hours—five to ten at the outside—remove it as soon as the epidermis begins to rise slightly. After the plaster is removed the skin may be covered with a piece of bibulous paper thickly coated with cerate or cold cream. The vesication continues almost painlessly, and the patient also avoids the renal troubles which sometimes occur when the blister is left too long.

Historical Notes on Opium.*

CONFIDENCE in the doctrines of Galenus had already been undermined to such a degree among the successors of Paracelsus, that they began to reckon opium among the *calida* (warming remedies), instead of placing it among the *frigida* (cooling remedies), with Galen. This was done by Felix Plater,[1] Bauhinius,[2] Libavius,[3] Quercetanus,[4] and others. Plater placed such a reliance upon opium, that he pretended to be able to retain or restore the life even of those who had been broken upon the wheel. His trochees, composed of opium, sugar, cinnamon, musk, tragacanth, and wine, were very famous in his time as a remedy against cough and hæmoptysis. According to Quercetanus, who was himself one of the most zealous chemists and followers of Paracelsus, the "sulphurous and oily constituents of opium produce its narcotic effects; the sulphur is dissolved in the body, its vapors mingle with the blood and are carried to the brain, where they fill up the ventricles and thereby produce narcosis." Similar views were entertained by the philosopher Cartesius;[5] according to him the soporific effect is produced by the accumulation in the pores of the brain of the vapors of opium itself. Helmont,[6] on the other hand, denies the correctness of this explanation, because "the sulphur is in combination and not free." According to him, opium contains a bitter oil having soporific properties, and a sharp-tasting salt possessing sudorific effects. Between the contradictory statements of the old and new schools, respecting the heat or cold-producing effects of opium, he seeks to make a compromise by acknowledging it to be a *calidum*, having, however, *occasionally* the qualities of a *frigidum*, since it is capable of overpowering or entirely driving away the *archeus*.[7] His principal antidote for poisoning by opium is caustic lye. "Opium should not be administered without corrigents. Happy the patient whose physician knows how to remove the deadly principles from the poppy, and to retain the salubrious ones; else the noxious ingredients are taken with the useful ones, and the effect of the latter is neutralized." His favorite solvent for opium was quince-juice, which he considered equal to alkahest, the imaginary universal solvent.

Helmont's contemporary, De le Boë Sylvius,[8] the founder of the chemiatric school, proposed a new theory to explain the effects of opium. He considered the "spirit of life to resemble spirits of wine, and to circulate in the nerve-tubes. The former are coagulated by opium in the same manner as the latter by volatile alkali." Among his followers opium became very fashionable. One of these, Cornelius von Bontekoë,[9] appears to have used it very indiscriminately, for he recommends as the surest way to prolong life, "incessant smoking of tobacco, constant drinking of tea, and frequent doses of opium." A similar curious recipe for prolonging life had previously been given by Baco of Verulam,[10] who maintained that life is prolonged by moderation in mental or corporeal work, moderate use of opium, nitrum, and the aurum potabile (drinkable gold), whenever it should be discovered.

Werner Rolfink,[11] the celebrated chemist and anatomist, gave important directions on the use of opium in phthisis; he says: "It is indicated in all cases where an acrid mucus flows down into the chest; but it is fatal in ulcerous conditions of the lungs, as it interferes with expectoration, and thereby causes suffocation."

The surgeons of the sixteenth century appear to have made considerable use of opium in the

* Second portion of an abstract from a paper by Dr. Otto Billinger, of Munich; the first portion will be found in the August number of our last volume (v., p. 229). The notes are our own.

[1] Born in 1537, died 1614. Author of an anatomical work entitled "*De partium corporis humani structura et usu*," Basle, 1583.

[2] Johann Bauhin, 1541–1613, born at Basle, died at Mümpelgard. His work entitled "*Plantarum historia universalis nova et absolutissima*," the fruit of nearly fifty years' study, was published after his death. His younger brother, Kaspar Bauhin (1560–1624) was professor of botany at Basle, and author of the celebrated botanical work: *Πιναξ theatri botanici*, being an index to all previous botanical works, with synonymes.

[3] Andreas Libau or Libavius, 1540–1616, born at Halle, died at Coburg. He was the first to banish from his writings the mysterious language of the alchemists, and to describe the processes in an intelligible manner. His *Alchemia* may be termed the first real treatise on chemistry.

[4] Joseph Duchesne, surnamed Quercetanus, Lord of La Violette and physician to Henry IV. of France; born at Armagnac, in Gascogne, in 1521, died at Paris, 1609. Wrote: *L'Antidotaire spagyrique, pour préparer et conserver les médicaments.—Pharmacopœa dogmaticorum restituta.—Recueil des plus rares secrets touchant la médecine métallique et minérale;* and many others.

[5] Réné Descartes, or Renatus Cartesius, born 1596, at La Haye, in Touraine, died 1650, at Stockholm. Founder of a new system of philosophy and of analytical geometry.

[6] Johannes Baptista van Helmont, born 1577, at Brussels, died 1644. He was the first to recognize the properties of gases, which word he invented for the purpose, according to his own statement, in imitation of the Greek word chaos. His works were published by his son, under the title of *Ortus medicinæ*.

[7] This is, according to Paracelsus and Helmont's theory, the all-pervading primum mobile, or fundamental principle of life, which penetrates all parts of the living body, and on the condition of which depends sickness or health—on its presence life, on its absence death. The word is formed in imitation of the term *ἀρχαίη φύσις*, "fundamental principle of nature," used by Hippocrates.

[8] Franz De le Boë Sylvius, 1614–1672, born at Hanau, died at Leyden. His efforts to explain the processes of life and the action of remedies upon the body, by means of chemical theories, were made abortive by the insufficient progress of chemistry at this time. He was very fond of using preparations of antimony.

[9] His real name was Dekker, and he was surnamed Bontekoë from the tavern-sign of his father, representing a piebald cow (Bunte Kuh). Born at Alkmaer in 1647, died 1685 at Frankfort. See Sprengel's *Gesch. d. Med.*, xiii., 6.

[10] Francis, Viscount of St. Albans and Lord of Verulam, born 1561 at London, died 1626.

[11] Born at Hamburg, 1599, died at Jena, 1673. Introduced at Jena the dissection of human bodies, which was nicknamed "rolfinking." He established also a botanical garden and a chemical laboratory.

external treatment of wounds; but this practice was severely censured by the more observant members of the profession, as for instance, by Felix Würtz, of Basle, who particularly condemns its employment in gunshot wounds. Opium was likewise used, as in our times chloroform, to deaden the pain during operations; this was also disapproved by many, who contended that no sleep short of death itself could cause total insensibility to the pain of an operation.

Fallopia[12] relates a case of poisoning by opium, such as it occurred not unfrequently at that time. He received a condemned criminal, whom he was permitted to kill in any way he pleased, and to retain for dissection. For this purpose he gave him 2 drachms of opium, the effect of which was neutralized by an attack of quartan fever. The dose was repeated on a day during the intervals, and the patient died.

(To be continued.)

RECENT PAPERS.

Répertoire de Pharmacie. Nos. 4. 5.

P. CAZENEUVE AND O. CAILLOL: "Apparatus for Continual Displacement." (See page 108.)

LIMOUSIN: "Croton-Oil Crayons." [In order to prevent the spreading of croton oil beyond the limits intended, the author has prepared crayons by melting 1 part each of cacao butter and white wax in a small glass flask, and then adding 2 parts of croton-oil, taking care to close the orifice of the flask at once with a cork. When the mixture begins to get thick, it is poured into cylindrical moulds, where it speedily solidifies. These crayons may be made of a thickness of about 8 or 9 millimetres (⅓ inch), and may be covered with tin-foil.]

P. CARLES: "On Syrup of Chloral." [In view of the uncertainty as to the strength intended by the prescriber, there being no less than 6 different formulæ already in use, and to remove the objections which have been raised against their preparation, the author proposes a new one: Chloral hydrate, 4 gm.; boiling water, 2 gm.; sodium carbonate, in concentrated solution, q. s.; essence of peppermint, 1 drop; syrup, colorless, 94 gm.; chloroform, 1 drop. Powder the chloral, which must be hard and dry, in a mortar, add the boiling water, then drop by drop solution of sodium carbonate, until litmus-paper is no longer reddened, and then add the peppermint. Agitate quickly and add at once to the syrup. Filter, if necessary, and mix the chloroform with it by agitation.]

LE CANU: "On the Preparation of Protiodide of Mercury." [Having criticised the various methods proposed for preparing this compound, all of which, according to the author, cause the resulting product to be more or less contaminated with the biniodide, he communicates his own process, which he says is very rapid and gives better results than any other: Take 5 gm. of mercury, add to it 20 drops of alcohol, and triturate until the mercury is entirely extinguished, replacing the alcohol which is lost by evaporation. Then add 3 gm. of iodine in small portions, taking care to triturate the whole as rapidly as possible. In about 10 minutes an exceedingly pure protiodide is obtained. The mercury, being in extremely fine division, and very slightly in excess, prevents the formation of any biniodide.]

P. J. HAAXMAN: "On the so-called Citrate and Valerianate of Caffein." [Confirming the results of previous investigators as to the non-existence of these salts.]

Pharmaceutische Zeitung. 5–8.

TH. HUSEMANN: "The Value of Mushrooms as Food." (See page 133.)

Schweiz. Wochenschrift f. Pharmacie. 1–4.

FR. ANTHON: "Estimation of Sodium Sulphate in Epsom Salt." (See p. 109.)

CALLET: "Recognition of Oil of Turpentine in other essential Oils." (See p. 103.)

THÜRACH: "Preparation of pure Bismuth." (See p. 113.)

The Pharmacist.

March. C. C.: "Acetic Cantharidal Vesicant." [A liquid vesicant, being a modification of that proposed by Mr. Jas. Dean, may be made as follows: Moisten 8 troy ounces of cantharides with 5 fluid ounces of acetic ether, and pack it tightly in a cylindrical percolator; then cover with a paper disc, and pour on 4 fluid ounces of the same menstruum. When the liquid begins to drop from the percolator, close the lower orifice with a cork, and having closely covered the percolator, let it stand 24 hours; then remove the cork, add more menstruum, and collect 16 fluid ounces. If necessary, filter, and bottle in ounce bottles. Directions: Paint the part to be blistered with the vesicant, using a small brush or bit of linen. Several coats may be necessary, unless the epidermis be very tender. The action is hastened by covering the part with oiled silk or rubber cloth. The blister will rise in from 15 minutes to one hour.]

Journal of the Chemical Society.

March. G. STILLINGFLEET JOHNSON: "On Potassium Tri-iodide." [The existence of such a compound having been doubted by some, but suspected by others, the author has attempted its preparation with success. Iodine was dissolved to saturation in an aqueous or alcoholic saturated solution of potassium iodide, and the liquid was evaporated slowly over sulphuric acid. The crystals first deposited were dark-colored cubes, which proved to be potassium iodide colored by a little free iodine; but, after some days, lustrous dark blue prismatic crystals, sometimes two inches long, were deposited, which had the composition required by the formula KI_3.]

A. H. CHURCH: "Researches on Colein." [The author has separated and analyzed the splending coloring matter residing in numerous varieties of *Coleus Verschaffeltii*, nat. fam. Labiatæ. The pure substance is a brittle resin, of a reddish purple when in powder, with a verge to crimson, owing to the general presence of a trace of acid. The alcoholic solution of colein soon loses its color, but if the alcohol be removed in a current of hydrogen the color reappears. Acids preserve or restore the intense red color. The formula of colein is $C_{10}H_{10}O_5$.]

Pharmaceutische Zeitung. Nos. 19–30.

DR. SCHACHT: "On the Percentage of Water contained in Quinia Sulphate." [Referring to the investigations of Cownley—see NEW REM., v., 303—who ascertained that the freshly-prepared, uneffloresced sulphate of quinia contains 7¼ molecules of water, that is, 15.32 per cent., and that this water may all be driven off at 100° C. Dr. Schacht has examined a number of specimens of commercial sulphate of quinia (Zimmer's and Koch's) and has found the following percentages of water: 12.17; 12.26; 14.44; 14.73; 8.64; 11.00; 11.23; 11.40; 11.52.]

JUL. JOBST AND O. HESSE: "The Constituents of Coto-Bark." [The ethereal tincture, prepared from the new variety of coto-bark, which has lately been imported into Germany, leaves on evaporation a brown resinous residue, which becomes gradually crystalline, and from which, by fractional crystallization from boiling alcohol, the following bodies may be separated: Paracotoin $C_{19}H_{12}O_6$*; Oxyleucotin (abbreviated for oxy-leuco cotoin) C_{21}

[12] Gabriel Fallopia, born 1523, at Modena, died 1562. Celebrated anatomist, author of many anatomical treatises, and of a pharmaceutical work entitled *De compositione medicamentorum*.

* The recent importations of coto-bark have shown that various parcels of this drug differ in composition. That which was first imported contained the proximate principles, Cotoin, $C_{22}H_{18}O_6$, on which see NEW REM., v., 360, and Cotonetin $C_{30}H_{16}O_6$. Later specimens were found to contain the bodies mentioned above.

$H_{20}O_7$; Leucotin (for leuco-cotoin) $C_{21}H_{20}O_8$; Hydro-cotoin $C_{22}H_{20}O_8$.]

E. MERCK: "On Foreign Admixtures among Officinal Roots. (See p. 139).

The Practitioner.

March. OSCAR LIEBREICH: "The Uses of Pepsin in Medicine, and its Preparation" [See p. 111.]

SIDNEY RINGER and J. S. BURY: "A Case of Acute Mania Treated with Large Doses of Hyoscyamia, Daturine, Atropia, and 'Ethyl-Atropia'" [The writers believe, from the results of treatment in this case, that in cases of delirium atropia and daturine are as good, or nearly as good, as the far more expensive alkaloid, hyoscyamia.]

ARTHUR LEARED: "Tape-Worm Expelled by Turpentine after the Failing of Several other Remedies." [Three drachms of turpentine, with hyoscyamus.]

ROBERT BRIDGES: "Two Cases of Violent Chorea, Illustrating the Administration of Chloral Hydrate in Large Doses." [The principle of treatment was to administer sufficient chloral to insure ten hours' sleep in twenty-four. To accomplish this 3 ss. of chloral was first given, and when the patient awakened a somewhat smaller dose, and so on until the requisite amount of sleep had been accomplished. Both cases recovered rapidly.]

The Lancet (American Edition).

February. E. MARKHAM SKERRITT: "Croton Chloral in Neuralgia." [Publishes the results following the use of this remedy in twelve hospital patients whose affections he divides into three classes, viz.: A. Pain or other abnormal sensation about the face, head, and neck, including—(*a*). Ordinary headache affecting the anterior part of the head, or the occiput and upper part of the back of the neck. (*b*). Megrim, migraine, or so-called bilious sick-headache (*c*). Facial neuralgia and toothache. (*d*). Headache associated with cerebral disease. (*e*). Sensations such as giddiness, without actual pain. B. Pain in other regions, comprising (*a*). Pain other than visceral in the limbs and trunk. (*b*). The pain of dysmenorrhœa. (*c*). Pain connected with digestion. C. Hysterical convulsions. Eighteen cases are reported in the portion of the paper given thus far, in which the pain was confined to the head, nearly all of whom were cured and the balance markedly relieved.]

A. B. R. MYERS: "Salicin in Acute Rheumatism." [Questions whether the large doses recommended by Dr. Maclagan in the *Lancet* for January are not larger than necessary (15 to 30 grains).]

JOHN CURNOW: "The Treatment of Acute Rheumatism by Salicin." [Reports four cases.]

THOMAS W. KEATES: "On a Mode of Generating Sulphurous Acid for Use as a Disinfectant," etc. [See N. REM., vi., p. 46.]

Medical Press and Circular.

April 11–18. T. LAUDER BRUNTON: "On Pharmacology and its Relations to Therapeutics." [Considers the subject under the following heads: 1. The reasons why therapeutics has made such slow progress in the past, as shown by the history of medicine. 2. The methods by which it is at present advancing. 3. Some of the most important results obtained by these methods. 4. The prospects of therapeutics in the future.]

EDITORIAL: "Deaths from Chloroform." [Comments upon two deaths which recently occurred in University College Hospital, in cases of chloroform narcosis, and protests against the careless way in which the agent is sometimes employed.]

EVAN M. BRODDY: "Ergot in the Treatment of Rheumatic Fever." [His experience in India and England leads him to believe that the influence of ergot over unstriated muscular fibre causes rapid diminution of inflammatory symptoms, and lessens the tendency to cardiac troubles.]

W. HANDSEL GRIFFITHS: "On Acidum Salicylicum, Salicinum, etc." [Most of the facts reported have already appeared in our pages.]

EDITORIAL: "Alcoholic Medical Prescriptions." [An argument against the extreme grounds taken by advocates of Total Abstinence.]

British Medical Journal.

March 24–31. T. LAUDER BRUNTON: "Pharmacology and its Relation to Therapeutics." [Gives the physiological action of *Cusca bark*, used as an ordeal poison on the west coast of Africa.

March 31. GEO. BROWN: "Treatment of Ringworm by Perchloride of Iron." [Says that he has treated five cases with local applications, with very excellent results.]

EDW. T. TIBBITS. "Alcohol in Medicine." [Arguments to prove that alcohol acts in the economy as a fat-food.]

April 7. T. LAUDER BRUNTON. "Pharmacology and its Relation to Therapeutics." [Treats of the mode of action of agents that affect the digestive functions and nutritive changes.]

S. M. BRADLEY: "The Administration of Phosphorus." [Is in the practice of sending his prescriptions for phosphorus to a homœopathic pharmacist, ordering "one ounce of mother tincture (ethereal), one per cent. in strength." Two to four and up to eight drops to be taken three times a day in water. He also relates a singular effect from taking this preparation, occurring in a lady, aged 30, suffering from intercostal neuralgia. Three doses daily of three drops each were taken, and after each dose the patient became hysterically delirious, composing herself finally as if intoxicated. These symptoms lasted two or three hours.]

A. A. GORE: "The Cold Bath in Typhus Abdominalis."

April 14. CLEMENT DARUTY: "Failure of Salicin and Success of Cold Packing in Rheumatic Fever."

L. H. ORMSBY: "The Advantages of Ether as an Anæsthetic; with a Description of a New Inhaler." [Gives the following statistics concerning the comparative safety of various anæsthetics:

	Deaths.	Inhalations.
Ether	4 to	92,815 or 1 in 23,204
Chloroform	53 "	152,260 " 1 " 2,873
Mixture of chloroform and ether	2 "	11,176 " 1 " 5,558
Bichloride of methylene	2 "	10,000 " 1 " 5,000

Nitrous oxide, not given.]

Chemist and Druggist.

April 14. M. GILBERT: "Historical Sketch of Poisons" (*continued*).

W. G. PIPER: "Names of British Medicinal Plants."

W. B. A. SCOTT: "Notes on Inoculation."

J. BARKER SMITH: "Approximative Quantitative Tests." [Fourth paper: on Essences.]

ANONYMOUS: "Coloration of Iodide of Potassium." [States that the degree of alkalinity of any individual sample of the salt can be determined with greater nicety by the relative rapidity with which it imparts the stain of iodine to a piece of plain white paper than by any other known method. According as the iodide which has produced the spot is more or less alkaline, so will the iodine stain be a longer or shorter time in being developed. The neutral salt at once produces the stain, the salt slightly alkaline after some exposure of the spot, the salt decidedly alkaline after still longer exposure, and so on. This test has a direct bearing upon the process for detecting the presence of ozone in which the iodide is employed.]

WM. GILMOUR: "A Few Notes on Vinegars, their Impurities and Adulterations." [Two distinct processes exist for the manufacture of vinegar, viz.: by acetous fermentation of malt and unmalted grain, and by the destructive distillation of wood and subsequent purification. In the latter case the non-terebinthinous woods are employed and the process resembles the manufacture of coal-gas. The crude acetic (or pyroligneous) acid which passes over is a black, oily-looking liquid, containing tar and other hydrocarbon compounds, and it is generally purified by converting it into an acetate with lime or soda, and destroying the tar by a heat not sufficient to decompose the salt. Recrystallization serves to purify the acetate from which the acid is ultimately liberated by the use of sulphuric acid. The acid is once more distilled and the care taken determines the ultimate freedom from impurities. A variety of tests are subjoined.]

L'Union Pharmaceutique.

January. LESSERTEUR: "Hoang-Nan, a Remedy against Rabies, Leprosy, and the Bite of Venomous Animals." [Containing the assertions of the missionary abbé Lesserteur, which are at present being tested at Paris, as to the almost unfailing efficacy of this Chinese remedy in the above-mentioned cases. The "hoang-nan" is a small tree, growing upon the mountain chains of the provinces Nghe-an and Thanh-hoa, of Tonquin. Its bark is covered with a reddish powder, which is the active portion. This is mixed with alum and native disulphide of arsenic (realgar), and moistened with vinegar. Further information is promised.]

P. CAZENEUVE AND O. CAILLOL: "The Extraction of Alkaloids and other Crystalline Principles." [In our last number we gave a description and illustration of an apparatus designed by the authors, for the purpose of exhausting any substance by means of a volatile menstruum, without loss or waste. Its practical application is shown by the author in the results obtained with various substances. *Pepper* was examined for its percentage of *piperin*, and pure piperin prepared, by treating powdered pepper with boiling milk of lime for 15 minutes, evaporating and drying the mixture in the water-bath, then placing it into the elongated displacer (*B*, in fig. on pg. 108) and exhausting with commercial ether. The authors in this manner obtained the following percentages:

Sumatra pepper	yielded	8.10	per cent.	of piperine.
Singapore "	black... "	7.15	"	"
" "	white... "	9.15	"	"
Penang "	"	5.24	"	"

White pepper is prepared from black, by removing the dark pericarp, which contains a good deal of essential oil, but no piperine; hence, it gives a larger yield.]

CH. RICHET: "Researches on the Gastric Juice in a Living Subject."

P. GUYOT: "On the Value of Picric Acid as a Reagent for Prussic Acid." [On heating together a picrate and an alkaline cyanide, a splendid red color is produced, which is supposed to be due to the formation of a so-called iso-purpurate (Hlasiwetz) or artificial murexide. A standard solution of picric acid, containing 1 gm. in 100 c.c., is prepared, of which 5 c.c. are used at a time. This is neutralized with ammonia, and heated in a test-tube. It is then tested against a solution of 1 gm. of potassium cyanide in 250 c.c. of water. It will be found that 10 c.c. of the latter, or 0.04 gm. of KCy, are necessary to produce the red color on heating. In the cold there is no reaction.]

M. LÉARD: "On a Minim-Filter." (See p. 137.)

L. PATROUILLARD: "On the Preparation of Crystallized Magnesium Acetate." [On adding to 600 gm. of glacial acetic acid, magnesium carbonate, no action occurs; but, after having added about 150 c.c. of water, carbonic acid gas is given off, and solution takes place. This is filtered and placed under a bell-glass with sulphuric acid, when handsome, transparent crystals will form.]

La Ruche Pharmaceutique. Nos 1-2.

P. PETIT: "Preparation of Syrup of Bitter Orange." [Recommending this formula: Macerate 400 grammes of bitter orange peel, in thin slices, in a mixture of 200 gm. of alcohol (85 per cent.) and 2,000 gm. of distilled water, at the ordinary temperature, in a closed vessel for 48 hours; strain without expression and filter. Then pour upon the well-drained peel 100 gm. of boiling distilled water, let infuse for 12 hours, strain and express lightly, and filter. Unite the two liquids and add 6 kilos of white sugar, which is dissolved by a gentle heat in a closed vessel. Before bottling, 50 grammes of alcohol (85 per cent.) are added to the syrup.]

P. PETIT: "Falsification of Seneka Root with the Root of Vincetoxicum officinale." [The author states that it is almost impossible to find Seneka root in the market which does not contain more or less of the root, or rather rhizome, of Vincetoxicum. This fraud is, of course, to be laid at the door of European druggists.]

American Journal of Pharmacy.

April. ALPH. HERRERA: "Notes on the Joyote of Mexico." [*Thevetia Yccotli* D.C., a tree of nat. fam. Apocynaceæ, is a native of the damp and hot regions of the Mexican Cordilleras. The term yccotli is corrupted from the Aztec name of the tree *joyotli*, hawk's-bell. The milky juice was used by the ancient Mexicans for curing deafness and in skin diseases. The fruit is called at present *huesos ò codos de fraile*, "bones" or "friar's elbow," and the seeds are used as a topical application in hæmorrhoids. These seeds contain a glucoside, which splits up into glucose and a resinoid substance named *thevetosin*, which is a powerful poison, acting first as an emetic, and then as a paralyzing agent.*]

TH. G. WORMLEY: "On the Preparation and Toxic Effects of Gelsemia." [Modifying his former process as follows: A given volume of the fluid extract of Gelsemium, acidulated with acetic acid, is slowly added, with constant stirring, to about 8 volumes of water; after the separated resinous matter has completely deposited, the liquid is filtered, and the filtrate concentrated on a water-bath to something less than the volume of fluid extract employed. The gelseminic acid is then extracted from the concentrated fluid by ether, after which the liquid is treated with slight excess of carbonate of sodium, and the gelsemia extracted with ether or chloroform.]

The Pharmacist.

April. H. BIROTH: "Non-alcoholic Fluid Extracts prepared by 'Insuccation.'" [The author proposes to use a more simple method, for which he chooses the term "insuccation," for the preparation of fluid extracts from such drugs, the active principles of which are soluble in water or glycerine. His formula for Fl. Ext. of Dandelion will show his method: Take of dandelion root, cut or crushed (not powdered), 16 Troy ounces, boiling water 8 pints, glycerine 8 fl. ounces. Mix the glycerine with 4 pints of boiling water, pour upon the dandelion root, and allow to "insuccate" for 24 hours, then strain, allow to settle, and decant. Upon the residue pour 4 pints more of boiling water, and proceed as before. Mix both decanted liquids, evaporate by means of a water-bath to 1 pint, and filter. When using this process, gentian, rhatany, and ergot are extracted with cold water, liquorice with cold water to which ammonia has been added; buckhorn bark, rhubarb, senna, and seneka are treated first with boiling water, and next with cold water and ammonia.—The necessity of subsequent heating, in order to concentrate the obtained liquids, makes the applicability of this method extremely doubtful in the case of ergot; nor will the peculiar odor of rhubarb be fully retained. But quassia, triticum repens, and other drugs not containing important volatile constituents, may well be treated by the above method."—ED. N. R.]

The Druggists' Circular and Chemical Gazette.

May. J. B. MOORE: "On Tincture of Colombo." [Recommends the following process: Colombo, in powder No. 20, 4 Troy ozs.; alcohol, 22 fl. ozs.; glycerine and water, each 5½ fl. ozs.; dilute alcohol, q. s. Mix the alcohol, glycerine, and water, moisten the powdered colombo with the mixture, pack in a close vessel, and set aside to macerate for 6 hours; then pack in a glass funnel prepared for percolation, and gradually pour upon it the remainder of the menstruum, and when this has passed from the surface, continue the percolation with dilute alcohol until 32 fl. ozs. of tincture are obtained.]

Schweiz. Wochenschrift f. Pharmacie. Nos. 11-13.

F. SCHNEIDER: "Mustard-Flour as a Detergent.

A. HUBER: "On the Preparation of Very Thin Pencils of Silver Nitrate. (See p. 140.)

* That is, it is a powerful *cardiac poison*, and belongs to the class of principles mentioned in Prof. Th. Husemann's paper, "*On the Distribution of Cardiac Poisons in the Vegetable Kingdom*," published in our Jan. and Feb. Numbers.

ORIGINAL COMMUNICATIONS.

ON WATER AS A THERAPEUTIC AGENT, TOGETHER WITH THE DESCRIPTION OF A CONVENIENT AND EFFECTUAL METHOD OF EMPLOYING IT IN FEVER.

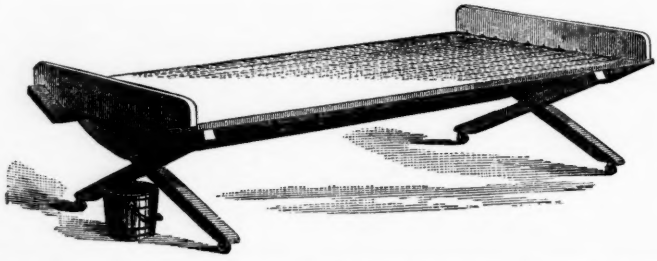
By G. W. Kibbee, M.D.

The idea might strike some in a rather ludicrous light that a substance so common as water, that composes four-fifths of the weight and bulk of our bodies, and is so essential that no organism could retain life for an instant without it, should be brought up as a "new remedy." If, as is held by the most advanced medical scientists of to-day, excessive vital heat is the direct cause of the morbid phenomena of fevers, whatever the inimical thing may be that excites the exalted vital action which produces the heat, then the persistent use of water at some temperature cooler than the blood is a remedy that should not be ignored. When it is taken into account that so few of our fraternity have depended on it in time past to regulate vital heat, it does not seem inappropriate to call water a new remedy, and to treat of it as such.

For many years I have relied on water as a regulator of vital heat. In reducing the heat of fevers, I have used it in all temperatures from icy cold up to 95°, but I soon learned that the best effects were produced by pouring over the body, through a folded sheet reaching from the thighs to the armpits, water at from 95° down to 80°. Under this plan I have not only *saved* many patients in typhoid who had all the complications immediately preceding dissolution, but have brought about, in such cases, an immediate convalescence. The reason why this mild and gradual cooling plan brings more speedy results than the cold treatment, as practised in Europe, is that the heat is so quietly brought down to the normal standard, that no reaction follows, and the pouring is so continuous that no exacerbation of the heat occurs, although the vital action may be double that of health. This plan of keeping the heat at the normal standard not only succeeds perfectly in typhoid when the treatment commences with the rise of heat, but does equally well with fever of every name; and long ago I came to the unqualified conclusion that it is simply impossible for an ordinarily healthy person to die of fever, no matter what its cause, if the excess of heat be removed, as fast as it rises, by the plentiful use, over the trunk, of water, just a little below the normal heat of the blood.

The method of Brand is to immerse the patient to the neck in water at 68° F., for fifteen minutes once in three hours; varying the time of continuing the bath, the length of the intervals, and the adjunctive treatment, according to the evolution of heat, and the complications which arise from it. The experience of all physicians points to excessive vital heat as the producing cause of all the morbid phenomena attending fever. The exalted vital action being Nature's method of expelling morbific substances or causes of vital disturbance, we need no remedy for that; but what we require in a remedy is the power to remove excessive vital heat.

The remote causes of the morbid phenomena are as various as are the substances and forces that are inimical to human vitality. While there can be no question that the atmosphere is filled with vitalized invisible germs that are taken into our blood by inhalation, the experience of Brand and Gignoux, who depended *entirely* on the cooling method in fevers, proves to an absolute certainty, that when the blood is kept at its normal standard of heat, no matter how rapidly the heart beats and the lungs respire, nor how fast the vital heat is evolved by that exalted action, these germs are cast out or otherwise disposed of; being incapable of such development into living, aggressive organisms, as to do serious damage in the system, unless the heat is above the normal standard. Brand, Gignoux, and a few others have undoubtedly made water the *only* therapeutic remedy in fevers, but it is quite probable that others have adopted a mixed practice, or lacked thoroughness in the cooling treatment, and consequently have obtained less satisfactory results. There cannot be the shadow of a doubt that keeping the blood at the normal standard of heat is of first and vital importance in the treatment of disease of whatever name, acute or chronic, or that water is the most available therapeutic agent for that purpose. But water as a means of communicating heat and cold is not only of vital importance in regulating the temperature in fevers, but it is the most powerful therapeutic agent known to the profession for filling other indications. Prof. Macartney, Lecturer at Trinity College, Dublin, 1836, said: "If men knew how to use water so as



to secure all the remedial results it is capable of producing, it would be worth all their other remedies put together." This was said forty years ago. A great deal has been learned since then. I learned, early in my practice, that cooling the blood to the normal standard of heat not only relieved patients from the most excruciating pain in many instances, but in all cases gave rest and sleep to those who had long suffered from distressing nervousness and wakefulness. Prof. Clark says, "A sponge bath will do more to quiet restless patients than any anodyne." This I have proved true, in effect, in many instances where I have, like Dr. Gignoux, been called to cases of typhoid that had passed into the last stage of the disease with all the severe complications. I now call to mind one case that serves well to illustrate the quieting influence of the cooling process. The patient had been down with typhoid fever for twenty-one days. His brother, attending physician, had called a council of three neighboring physicians the day before, and the conclusion was that his case was utterly hopeless. On the morning of the twenty-first day the brother came for me over twenty miles of country road, to go with him and apply the water treatment as a last resort. The man had then been unconscious for four days. There had been no action from the liver and small intestines for three days, but there had been rice-water discharges from the lower bowels during the time, and no passage from the kidneys for the previous thirty-six hours. He was in a constant waking delirium, having had nothing resembling natural sleep for seventy-two hours.

I had a fresh straw bed prepared, a folded sheet was placed around his trunk, and water at a mild and pleasant temperature was poured over the body through the sheet, and allowed to run off on the floor. In one hour's time the heat, which had been most intense, was reduced to the nor-

mal standard; the rice-water discharges ceased; he began to get refreshing sleep of twenty minutes or half an hour's duration; in twenty-eight hours, immense discharges came from his liver and small intestines; in three days more he was clothed in his right mind, and within a week from the commencement of the treatment, he was completely convalescent. This might be called strong corroboration of Prof. Clark's method of quieting restless patients. Let us take note, now, of what indications the water fulfilled in that case. In the first place it proved an anodyne, a thing apparently the most needed; next, it proved a diaphoretic, for just as soon as the heat was reduced to the normal standard, the skin assumed its normal function; third, it served as a diuretic, for the kidneys, after twelve hours of the cooling treatment, had taken up their share of the depurating processes. It served as a cholagogue, for when the overheated liver was brought to its normal temperature, the vitiated bile began to be eliminated from the blood, and cast into the primæ viæ, and found exit in twenty-eight hours in copious amounts. It was a sialagogue, for as soon as the excessive heat was removed from the system by the tepid pouring, the whole mucous membrane began to do its normal work, and a fluid was exuded that soon loosened up the sordes upon the teeth and gums, and the hard, dry, black coat on the tongue and fauces; and last, though by no means least, it served as a stomachic or appetizer. When the great heat of the blood was reduced to its normal standard, the stomach very soon began to pour in its gastric fluid, and directly Nature made a demand for food.

Many a physician has stood for weeks in the front of the battle which a few devoted sisters of charity and other self-forgetful souls have waged against the pestilence that walketh at midnight and slayeth at noonday, full of expedient and hope, until he enters his own door to find one of his loved ones writhing in the agonies of cholera. He goes to work with trembling hands, and with a fear that is tormenting, but in spite of all he can do, he sees the skin shrivelling up as in old age, and feels in vain for a pulse at the wrist. What, then, would he not give for a remedy that could restore tonicity to the nervous extremities, and start anew the peripheral circulation and heat? *He has it in cold water.* In a fearful epidemic at Nashville, Tenn., I successfully treated several cases of cholera that were cold to the trunk and pulseless at the wrist, by pouring cold water over the body, and immediately wrapping in hot wet blankets. At a later day, in 1873, Dr. W. K. Bowling did the same thing in effect by rubbing his patients with ice and wrapping them up warmly.

In a Western city, some years since, an epidemic of acute dysentery prevailed. One of my medical brethren who followed the usual plan of medication lost many cases, including three of his four children, and then fell ill of the disease himself. He is a noted man, and received the sympathy and aid of the profession from all surrounding quarters, but his case came at length to be hopeless under the treatment that had been instituted, and it was resolved, as a last resort, to use water. It is unnecessary here to give the symptoms which immediately precede dissolution in acute dysentery. When I was called into the council, it was believed that extensive ulceration had occurred. It was concluded at once to treat the cutaneous extremities of the nerves by pouring several pailfuls of very cold water over the body, using a great amount of friction by hand rubbing, followed by closely wrapping the trunk and extremities in very hot wet blankets, with a large amount of dry covering to prevent the radiation of heat. Within ten minutes he was in a sleep, which lasted three-quarters of an hour, when he was taken up and the same process repeated. He then slept an hour and a half, was taken out and put into a dry bed, and cool compresses laid over the trunk, changed every twenty minutes. Sleep! how that man *did* sleep for the next fifteen hours. He had been having painful dejections every ten minutes for four days, with *no* biliary action during that time, and of course no refreshing sleep. The dysenteric dejections instantly ceased, and within seventeen hours from the beginning of the treatment a profuse discharge came from the liver and small intestines, and the convalescence was so rapid that within three weeks he was in his usual health.

The cases of congestive chills that I have successfully treated on the same principle are too numerous to particularize. Cold water, then, or ice, is the best known tonic. Are these cumulative facts indicating the great therapeutic value of water singular coincidences? Or is there a grand principle of *cure* underlying that has been too much neglected by the profession? But all these services of water as a therapeutic agent, let us bear in mind, come through its power of *regulating vital heat.* If any other substance could be made to do the same thing, it might, perhaps, be substituted upon occasion. But *is* there any such substance? Prof. Sée, of Paris, thinks quinine, next to alcohol, the best and safest antipyretic. But on what principle does quinine or alcohol reduce the heat of fever? Evidently by lessening the action of the vital force. When anything inimical is taken into the blood through the lungs, or by ingestion, what is the first symptom that points to the fact? Exalted action of the heart and lungs. *Why* does the heart set up a more rapid beating than normal, and *why* do the lungs increase their action in conformity? Evidently for the purpose of resisting and expelling whatever it is that offends. This, then, is Nature's method of setting things to rights, and there is ample proof that the rapid circulation and respiration attending a case of scarlet fever, or of any other fever, are not, of themselves, any serious detriment to vitality. It is the excess of *heat* that does the mischief, makes the abnormal changes in *all* fevers. Why, then, in the name of reason, should we *prevent* the heat by the use of quinine or alcohol, and thus interfere with Nature's method of removing whatever is offensive, when, with water, we can remove its excess, and thus leave all the organs free to perform their normal functions, though the heart may beat and the lungs respire with double their normal action in resistance to whatever is inimical. For many years I used this tepid pouring treatment at very great disadvantage, but about eighteen months ago, during the prevalence of a fearful epidemic of typhoid fever, I invented a bathing cot, so constructed that the water used passes over the patient's body, and down through a strong network, upon which he lies, to a rubber bottom below, which conducts it to a vessel at the foot. On this cot, water at any required temperature can be used for any desired length of time, as it proves a very comfortable bed for the patient. In cases where the vital heat is below the normal standard, as in cholera, etc., the patient is placed on the cot with the clothing removed, and cold water freely poured over the whole body, while the surface is briskly rubbed by the hands of attendants. This is followed by wrapping in hot wet blankets, and pouring water as hot as it can be borne. In the treatment of cases of excessive heat, the water should be mild in temperature, but persistently applied. I therefore recommend it to the profession as obviating all the objections to the *cold* treatment, and much more efficient than the cold water bath in keeping the temperature equalized.

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ON THE CASSIA TRADE OF CHINA.

BY DR. F. HIRTH DU FRENES, OF AMOY, CHINA.

The value of the annual exports from the port of Canton, in foreign bottoms, may be estimated at about 25 millions of dollars. The lion's share of this amount falls upon *silk*, both raw and manufactured, being about 14 millions of dollars, or considerably over one-half of the total value of exports. The next important article is *tea*, of which about 3 millions of dollars' worth is annually exported. And the next is *Cassia lignea*, with cassia-flowers and cassia-twigs, of an average value of 1,300,000 dollars. The largest portion of this is, however, not shipped at Canton itself, but at Whampoa, some 12 miles below Canton, on the Pearl River, where sailing vessels have their usual anchoring station. Vessels taking a cargo of cassia usually do not load anything else, and tea-ships avoid under all possible circumstances to carry it, as the cassia flavor is apt to be communicated to the tea. The freights are consigned either to New York or to Hamburg, or else to some station in the English Channel, usually Falmouth, whence the course of

the vessel is directed either to Antwerp or Bremen or Hamburg, according to the conditions of the market at these ports. Of late years large quantities of cassia have also been shipped to London, not for home consumption, but merely in transit, under bond, for re-exportation to the Continent. A comparison of the maritime statistics of China and of Hamburg shows, that over two-thirds of the entire cassia export finally reaches the Hamburg market, even by roundabout roads, this city being the chief depot for Central Europe. About one-fourth of the exported cassia reaches the United States.

Cassia is produced chiefly in two districts, namely in Loting chou, on the borders of Kuang-hsi and Pai-shui-tai, and in the neighborhood of the village Tai-wu at the southern banks of the Western River, above Wu-chou-fu in Kuang-hsi. Lo-ting chou is the central mart of the so-called Tai-shan district, which extends along the right bank of the Western River from its mouth, and is about 150 miles distant from Canton, while the distance from Canton to Tai-wu is about 180 miles. This latter city is probably the most distant place from which any important article of foreign trade reaches the Canton market, and yet this district is merely a small fragment of the large territory of which Canton would be the natural outlet. This statement is proved by the fact that from the whole south-western China, namely the provinces Kuei-chou, Yün-nan and the western part of Kuang-hsi, only insignificant quantities of domestic products—unless we except comparatively small lots of musk, galls, rhubarb, and a few other drugs—reach the treaty ports.

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THE DISPENSATORY OF THE UNITED STATES OF AMERICA. By GEORGE B. WOOD, M.D., and FRANKLIN BACHE, M.D. Fourteenth edition, carefully revised by Dr. GEORGE B. WOOD, assisted by DR. H. C. WOOD. 8vo. Phila., 1877, pp. xii., 1879.

WHEN we learned, a few weeks ago, that a new edition of the United States Dispensatory was about to be issued, we began to congratulate ourselves upon the final realization of a long cherished wish—which was, no doubt, also entertained by our readers—of again being put in possession of a standard, indispensable work, which would be a faithful commentary upon our present Pharmacopœia, and a reliable guide in all matters pertaining to materia medica and pharmacy. The work has left the press and now lies before us; let us see how our expectations have been realized.

The preface to the present edition states that "no care or labor has been spared to render the present edition equal in *accuracy* and in *completeness* to its predecessors. Great pains have been taken to omit superfluous matter and to condense the text; but the additions have been so numerous that the work has been augmented by about seventy pages. This increase is of course to be deprecated, but without it one of the chief values of the book would have been impaired, and it has seemed better to have a few pages more of print than not to have a *complete representation of the pharmacological science of the day.*" [The latter italics are our own.—ED. N. R.]

To this statement, however, we must take emphatic exception. It *does not represent* the pharmacological science of the day, nor of last year, nor yet of the year before, as may be seen even on superficial inspection. While in former editions the average distance between the dates of references quoted in the text and the date of publication was about *one* year, and readers could be tolerably certain that the information afforded by the text contained everything of importance known one year previous to the date of publication, we are surprised to find an entirely different aspect of things in this present edition. An inspection will at once reveal the fact that the two main portions of the work, *Materia Medica* and *Preparations*, have received very unequal treatment. The second portion, naturally, had to be completely revised, owing to the changes made in the last United States Pharmacopœia, and therefore necessarily differs much from previous editions; but the first part—which is at least of equal and to many of more importance than the second—is altogether unsatisfactory. There has probably been no period in this century during which so many important additions have been made to our knowledge of the history, composition, and uses of medicinal agents as the seven years elapsed since the last edition of this work, and no author, claiming accuracy and completeness for his work, could afford to publish in 1877 statements betraying a complete ignorance of the existence of such an epochal work as *Flückiger and Hanbury's Pharmacographia*, published in 1874,* every page of which is full of valuable and new matter. It has been a source of pride for the American pharmacist to know that the United States Dispensatory has been regarded as an authority of the highest rank all over the world, and that it did not have its equal; and we ourselves confess with pleasure that it has been for us an almost inexhaustible fountain of information. But this, to our sorrow, it has ceased to be, and we must turn to other sources to supplement, or to correct, the statements which we find in it. It would be impossible to point out all the defects and lacunæ in the part under discussion, the dates of references being too glaring a tell-tale not to prove in themselves the justness of our strictures. The second part of the work, although considerable labor has been bestowed upon it, betrays another equally undesirable character, namely, hurry. No proper account has been taken of the many comments and suggestions made in pharmaceutical literature on certain processes of the Pharmacopœia; and the explanation of chemical reactions, both in this part and in the first, is still given in the old, now antiquated, nomenclature, which we had hoped to have gotten rid of. The pasting process has likewise not helped to improve matters much, or we would not meet with such comments as are given, for instance, in the case of Vinum Ergotæ (which is made by mixing the *fluid extract* with sherry wine): "It is, therefore, best to employ the ergot in this process well powdered instead of merely bruised, as was formerly officinally directed."

While expressing our disapproval of the manner in which this revision has been performed, we must not forget under what disadvantages the editor has had to labor. His age forbids him from taking a very active share in the work, and he had to entrust the bulk of the task to others. But it is evident that the task of revision had not been determined on, nor was begun, until within a recent period, when stress was laid on the fact that "our Pharmacopœia, which needed a commentary, was without one." Besides, a mistake was made in not calling in more assistance—which might easily have been secured in Philadelphia itself—in order to turn out a perfect work. We trust that a future edition of the work will be free from these defects, so that we may again be able to turn to its pages with confidence.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN, by LOUIS A DUHRING, M.D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania, etc. Philadelphia: J. B. Lippincott & Co. 1877. 8vo, pp. 618.

ATLAS OF SKIN DISEASES, by LOUIS A. DUHRING, M.D., etc. Part II., *Acne Rosacea*, *Ichthyosis* (simplex), Tinea versicolor, Sycosis non-parasitica. Philadelphia: J. B. Lippincott & Co. 1877.

IT is not many years since we were almost entirely dependent upon foreign treatises for our knowledge of skin affections. These were hardly suited to our needs, since, as is well known, the influences of climate and modes of life are largely concerned in the production of this class of diseases, or greatly modify, in many instances, their appearances. It can hardly be wondered at that with such guides the study of these affections, as here presented, was beset with many

* The first copies of this work reached the United States during January or February, 1875.

difficulties, and that our knowledge of this important branch of medicine was comparatively limited. Of late years, however, the progress of dermatology has made rapid strides among us, and, following the republication of English works, we have had a number, of native origin, of increasing excellence, until, in these efforts of Dr. Duhring, we possess a treatise, and an atlas of colored plates, which are in advance of anything yet offered by an American author, and worthy of comparison with works of the same scope which have been issued abroad.

The classification, followed with some slight modifications, is that of Hebra, and an effort has been made to include all the important facts in connection with each disease treated of, which are essential to a work to be used by the general practitioner. Discussion of theories or unsettled points has been avoided, and a bibliographic list enables the reader to refer to more extended or special writings. Part I., embracing anatomy, symptomatology, etiology, etc., occupies about one hundred pages, and is sufficiently illustrated with cuts made from original drawings. Part II., devoted to special diseases, embraces Disorders of Secretion, Hyperæmias, Exudations, Hæmorrhages, Hypertrophies, Atrophies, New Growths, Neuroses, and Parasites. Whatever help the specialist or student in skin affections may derive from systems of classification, it is of more importance for the practitioner that the natural history and directions for the management of each disorder should be clear and comprehensive. We think little fault can be found with Dr. Duhring's work in this respect. In the matter of treatment and prognosis his chapters are quite full, the various prescriptions and formulæ being scattered through the text rather than massed at the end of the work, as is sometimes customary. A peculiarity of the work which strikes us favorably is the manner in which each chapter is headed, for example:

ECZEMA.

Syn. Tetter; *Germ.*, Eczem; *Fr.*, Eczéma.

"Eczema is an inflammatory, acute or chronic, non-contagious disease of the skin, characterized at its commencement by the appearance either of erythema, papules, vesicles or pustules, or a combination of these lesions, accompanied by infiltration and itching, terminating either in discharge with the formation of crusts or in the production of scales."

THE Atlas of Skin Diseases, by the same author, is a very desirable supplement to such a volume as the above. We have already noticed the first part, which contained plates and descriptions of eczema (erythematosum), psoriasis, lupus erythematosus, and syphiloderma (pustulosum).

Nothing superior to these plates in the way of a pathological atlas has ever been issued in this country, and those who require a series of colored plates of skin affections need expect nothing better. The edition is said to be limited, and the publishers announce that the lithographic stones will be erased after the series is once printed.

Each plate is accompanied with a description of the case, of which the portrait is a representation, followed by a brief account of the disease as generally manifested, and directions for its management. Each part sells for $2.50.

YEAR-BOOK OF PHARMACY: comprising Abstracts of Papers relating to Pharmacy, Materia Medica, and Chemistry contributed to British and Foreign Journals from July 1, 1875, to June 30, 1876. With the Transactions of the British Pharmaceutical Conference at the Thirteenth Annual Meeting held in Glasgow, September, 1876. London: J. & A. Churchill. 1877. 8vo, pp. 640.

OWING to the illness of the Editor the volume has been somewhat delayed, but it has been so carefully compiled that it has lost little of freshness and nothing of its value. The introductory chapter of sixteen pages recites the progress made in the several branches within the year, and is followed by the Year-book proper, embracing 360 pages, of which Pharmaceutical Chemistry comprises 135 pages, Materia Medica, 120 pages; Pharmacy, 83 pages, and Notes and Formulæ the balance.

The address of the President, Prof. Redwood, is full of suggestions that would prove of value to those who seek for fields in which to prosecute original research. The papers read at the meeting were of a very high order, nearly, if not quite all, being largely composed of original researches. We have already published abstracts of most of them and will do so with the others at an early date. Altogether the published transactions of the Association evince a painstaking earnestness on the part of its members which win our unqualified respect and admiration, and renders its publications among the most prized that come to our table.

A COURSE OF PRACTICAL HISTOLOGY: Being an Introduction to the use of the Microscope. By EDWARD ALBERT SCHÄFER, Assistant Professor of Physiology in University College, London. With Illustrations on wood. Philadelphia: Henry C. Lea. 1877. 12mo, pp. 304.

WE had been led to suppose, from the number and character of the text-books and manuals on histology, that there was no occasion for any more works on the subject, but we were convinced of our ignorance on looking over this comprehensive little work. No attempt is made to teach the minute anatomy of tissues. It simply aims at telling the student how to handle his instruments, and to prepare his specimens so that he *can* study their minute anatomy. From first to last the book shows that it has been made by one who has been accustomed to teaching the subject about which he writes, and has practical knowledge of the obstacles and difficulties to be met with. In the introductory chapters the microscope is described as a tool, without the least attempt to enter into the explanation of its optical properties. The directions are of the most minute character without in the least becoming prolix. There are forty elegantly drawn and engraved illustrations, of which all, with one exception, are original with the book. We heartily recommend the volume to those who wish a concise and reliable hand-book.

GENERAL INDEX TO THE NEW YORK MEDICAL JOURNAL. From April, 1865, to June, 1876. (Twenty-three Volumes.) By JAMES B. HUNTER, M.D. New York: D. Appleton & Company. 1877. 8vo, pp. 144.

THE medical profession are greatly indebted to the editor and publishers of this admirable summary of the well-known journal, and every one who has had occasion to refer to the literature of any special subject will recognize its value. If indexes of this sort were more common, scientific and literary men could save themselves the trouble of binding and preserving—oftentimes with great trouble and expense—files of journals; but could deposit them, instead, in some neighboring library, where they would not only be preserved, but would be accessible to others. A little over a year since *The Practitioner*, of London, published a general index to its entire series (12 years), and among secular journals the *Atlantic Monthly* has done the same thing.

It would have been a matter of interest to the friends of the journal if Dr. Hunter had given them in a prefatory chapter a brief history of its origin and progress from its founding by Van Buren, Clymer, Echeverria, and a few others, through the period when Hammond, then Hammond and Dunster, and later, Dunster alone, held the editorial chair, to be followed, by Lusk and Hunter, and latterly Hunter alone.

New Guano Deposits.—An English commission sent to examine some recently-discovered guano deposits to the south of Tarapaca, in Peru, have confirmed the reports of previous explorers as to the immense quantity of the deposit, amounting to at least 10,000,000 tons, and being besides richer in ammoniacal salts and in phosphates than that of the Chincha Islands.

Adulterated Chocolate has been analyzed by Dr. Vohl, in Cologne, and Mr. Heinz, in Duisberg, who found among seventeen samples, nine which contained no cacao at all. The constituents were: ground cacao-shells, tallow, roasted flour, and inferior sugar; in two cases, besides, 5 and 10% barytes, and various vegetable colors.

TRADE NOTES.

Little Harry's Odorless Safety Night-Lamp.

If there is a druggist, or dealer in illuminating oils, who has not yet got this article in stock, he is decidedly behind the times. Since "Blue Glass" this is the novelty of the season—and only twenty-five cents apiece, or $3.00 per dozen. It weighs two ounces; holds oil enough to last 12 hours; burns kerosene oil with No. 16 cable-cord for a wick; has a chimney and shade in one piece; and costs next to nothing—less than a penny per night to use it. We haven't seen it tried for such a purpose, but we should think that for those apothecaries who keep cigars in stock it would always be a handy lighter; or to keep on the dispensing counter to save matches in lighting gas and alcohol lamps, melting sealing-wax, etc, it might prove serviceable. But its chief use is to *sell*. Write to L. H. Olmstead, 81 Nassau st., New York.

Snow's Peerless Card-Holder.

Here is something for the druggist's benefit. A card-holder of this sort can be attached at any angle to almost any object, and will aid considerably in the displaying of goods. Small articles, like sachets and court-plasters, can

be held by them instead of inserting cards. We have no idea of what they cost, but presume that the Steele and Johnson Manufacturing Co., of 78 Reade & 19 Church Sts., New York, will be happy to answer any queries of that sort.

The Flexible Rubber Bit.

There are few gentlemen who have so much personal experience in the management of horses as physicians, and anything which will contribute either to their comfort or to the efficiency of their horses needs no apology for its introduction through the pages of a professional journal. The manufacturers of the Flexible Rubber Bit recently sent us a sample of their wares without knowing that we have had one in use for more than a year. We are quite prepared to say that we prefer it to any bit that we have ever used and can endorse their statement without reservation, that it is an easy bit for a tender mouth, and surpassed by nothing in its control of a horse that has a tendency to draw his load by the reins. No other bit ought to be put into a horse's mouth in cold weather. A chain is embedded in the rubber and securely fastened to the rings, and as every bit has been subjected to a test of 450 lbs., there need be no fear of its giving way under any strain to which it is likely to be subjected. Crane & Co., of 72–76 Mechanic st., Newark, N. J., are the manufacturers.

Sulphate of Cinchonidia.

For some time past the manufacturing pharmacists of this country have striven to direct the attention of the medical profession to the desirability of becoming more familiar with the properties of the various alkaloids besides quinia which exist in the cinchona barks. Dr. Squibb has repeatedly referred to it, and quite recently Messrs. Powers & Weightman have renewed their efforts in this direction by circulating a pamphlet composed of the published experiences of a large number of well-known physicians.

There is little doubt that much of the use of quinia, to the exclusion of the other alkaloids, and especially cinchonidia, is the result of fashion or habit, and it may be that the present high price of the fashionable article may be the means of stimulating investigation in a way that would not be likely while quinia maintained its old price. We understand that this firm will, for the present at least, send a package containing six ounces of sulphate of cinchonidia to any address, postage paid, on the receipt of five dollars (about the cost of an ounce of quinia at present prices), so that no physician, however remote from drug-stores, need delay a trial of the remedy.

Warner's New Shop Bottle.

William R. Warner & Co., wholesale druggists, of 1,228 Market street, Philadelphia, offer now a very pretty form of dispensing bottle, as represented in the adjoining cut. They make them in both tinctures and salt-mouths, ranging in height from 9½ to 16 inches of the former, and 8¼ to 15 inches of the latter; and in price from $2.65 to $8.75 per dozen.

Another variety is shown among the advertisements of this number.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

Bromhydric Acid (J. W. J., Ann Arbor, Mich.).—There are two kinds of this acid in the market; one has a spec. grav. of 1.040, which costs about 60 cents a pound (wholesale); the other has a spec. grav. of 1.350, and costs about $3.50. Unless the latter is expressly specified, the former is usually sold. We agree with you, when you say that the spec. grav. should form an integral and constant part of the labels of *all* acids sold in the market, and the manufacturer who should first introduce this improvement—provided the figures are accurate for a certain given temperature—would deserve the thanks of the profession.

Japan Dryer (Same).—We do not know what formula you have followed, but the one which we have seen recommended, although we cannot speak from our own experience, is this:

Linseed oil, boiled	1 gallon.
Shellac	12 ounces.
Litharge	8 "
Burnt umber	8 "
Red lead	8 "
Spirits of turpentine	1 gallon.

Mix all the ingredients except the turpentine; boil them for about 4 hours, or until they are dissolved, which will be seen from the homogeneous appearance of the mixture; then remove from the fire, allow to cool somewhat, and add the oil of turpentine.

Black Ink (F. G. G., Pa.).—Those inks are the best which penetrate into the fibre of the paper, and by gradual oxidation develop their black color. Hence, an ink which writes jet black at once is not always very durable. A very

good, easy-flowing ink of a dark green hue, which speedily turns black, may be prepared as follows:

Nutgalls	100	parts.
Green sulphate of iron	60	"
Gum arabic	10	"
Vinegar	1000	"
Indigo-carmine solution	200	" or q.s.

Powder the nutgalls, pour on the vinegar, and let stand a few days; then draw off the solution, boil a quantity of it (about 200 parts) with the powdered sulphate of iron and gum arabic, and add the hot solution to the remainder. Finally, add the indigo-carmine solution in measured portions until, after well stirring, a sample removed shows the required tint.

Cologne (C. V. Brooklyn, N. Y.).—An exceedingly fine cologne may be made after this formula:

Oil of bergamot	108	grains.
" lemon	262	"
" neroli (petals)	154	"
" neroli (bigarade)	49	"
" rosemary	108	"

Deodorized alcohol (92 per cent.), 6½ pints.

A less expensive product may be obtained by diluting the above with orange-flower, or rose-water, until it begins to be faintly opalescent, and then to filter, after shaking the liquid with a very small quantity of magnesium carbonate.

Lavender Water (Same).—This is a good formula:

Oil of bergamot	231	grains
" lemon	116	"
" geranium	39	"
" lavender	1200	"
Essence of musk (120 grs. to 1 pint)	4	"
Balsam of Peru	462	"
Storax	960	"
Zibeth	8	"

Deodorized alcohol (92 per cent.), 11 pints.

Dissolve the oils in the alcohol; then digest the remaining ingredients with the solution for 4 weeks, and decant.

In the formulæ for preparing perfumery, on page 74 of our March number, the number of ounces, referred to under extracts of pomades, is understood by us to mean *troy* weight; and the ounces of fluid extracts or essences, on page 92, to mean *fluid* ounces.

Solution of Prussian Blue (J. J. S., C. D., Utah T.).—There are two varieties of Prussian blue; one of these is the so-called "soluble" blue, which is used for injecting anatomical specimens and other similar purposes, to distinguish certain vessels and tissues under the microscope. This is rather troublesome to prepare. Your inquiry, however, would seem to refer to the ordinary Prussian blue, of which you desire to know a solvent so as to prepare a stable solution. The best commercial Prussian blue, which in trade is sometimes called Paris blue, must be subjected to a previous operation before it can be rendered permanently soluble. This consists in rubbing very finely powdered blue with an equal weight of sulphuric acid, allowing to stand for about 36 hours, then pouring the mixture slowly, under stirring, into a large quantity of water, and allowing to settle. The water having been drawn off, the residue is washed with water, until a sample of the latter ceases to produce a blue reaction with potassium ferrocyanide, showing thereby the removal of all excess of ferric salts. This residue is then, still moist, rubbed with crystallized oxalic acid and a sufficient quantity of water. Experience has shown that 6 parts of Prussian blue, purified as above stated, are soluble in about 1 part of oxalic acid, while the ordinary blue of the market requires at least 3 times its weight of this acid for solution.

Sumac Cultivation (F. M. D., Martinsville, Ind.).—It is hardly possible to give directions in these columns which would cover the ground of your queries. A general knowledge of the properties of the genus Rhus may be acquired from most text-books on botany (*Gray*, *Wood*, *Darby*, *Chapman*), and information as to the best kinds for tanning purposes may be obtained from some technological work, such as *Muspratt's Chemistry*, or from the files of the *Shoe and Leather Reporter*, published at 17 Spruce Street, New York.

Wood-Vinegar and Pyroligneous Acid (R. W. P., Duluth, Minn.).—The best information on this subject will be found in *Wagner's Jahresberichte über die Fortschritte der Technologie*, in *Muspratt's Chemistry*, *Bolley's Handbuch der Technologie*, und *Assmuss, Die trockene Destillation des Holzes*. Your question has probably been already answered by Mr. G. E. Stechert.

Extract of Vanilla (J. T. M., Atkinson, N. H.).—A good formula for preparing this extract from the bean, given by Mr. W. Saunders, will be found on page 72 of our March number.

Vanillin is easily soluble in alcohol and water. It has been shown that vanilla beans contain on an average 2½ per cent. of vanillin,* hence the aromatic power of this substance is 40 times as great as that of the bean itself. In practice, however, it is best to employ a little more. 30 grains of vanillin dissolved in 1 quart of syrup make a very fine preparation, of which a smaller quantity will be required than when using the syrup made from the bean. Vanillin is quoted at about $1.00 per gramme.

Menstruum for Extract. Lupulinæ Fl. (W. K. N., M.D., N. Y.).—The proper menstruum for preparing this fluid extract is stronger alcohol, and it should *not* precipitate on the addition of the latter. It is best administered in Syrupus Acaciæ, and may afterwards be diluted with a little water. Of course, in this case the resin will not be in solution, but in a state of fine division suspended in the liquid.

Extractum Cinchonæ Flavæ Fluidum Compositum (Squibb's) is recommended by Dr. Squibb, to be administered in a little wine, just before meals.

Antihecticum Poteri (A. S. B., Kansas City, Mo.).—The synonymes given in Dunglison's dictionary are perfectly correct, but the preparation has been out of use for more than 100 years. Pierre de la Poterie (Petrus Poterus), born at Angiers, about 1600, A. D., lived as physician in Italy, and wrote a *Pharmacopœa spagyrica nova et inaudita*, besides other works. He recommended as a remedy against phthisis, an impure oxide of antimony, containing oxide of tin, which was hence called "Diaphoreticum Joviale," as tin was referred in alchemy to the planet Jupiter, of which Jovialis is the adjective. Antihecticum is not a correct term: it should be anthecticum. See on Poterus and this preparation: *Sprengel*, *Gesch. d. Medicin*, 4, 358, *J. F. Gmelin*, *Geschichte der Chemie*, 1, 592.

Julep and Roob (A. McM., West Point, N. Y.).—The etymology of these words is this: *Julep* is derived from the Arabic *jullāb*, which has several meanings: 1. *a purge*, in which case is it a really Arabic word, as it is derived from the root *jalaba*, to draw; 2. a mixture of water and syrup, perfumed with *rose-water*, in which case it is itself derived from the Persian *gul*, *rose*, and *āb*, *water*. The mediævo- and modern Greek equivalent is σουλάπιον. The modernized Latin term should therefore be Julābus, or Julābium, instead of Julēpus.—*Roob*, or *Rob*, is originally from the Arabic *rabba*, to become thick or inspissated, from which the Arabic *rubb*, and Persian *rub*, thick juice, or syrup, is derived. The word is occasionally spelled *Rohab*.

Packing of Percolators (E. L., Nashville, Tenn.).—Various materials may be used for covering the bottom of large percolators. Some use flannel, others muslin of loose texture, others cotton, etc. We are in the habit of using fine tow, which makes an admirable filtering material. But we would caution you against using any cow-hair felting, such as is used for covering steam and gas pipes, or boilers, and which has likewise been recommended for use in percolators, without previously examining it for arsenic. *Some of the commercial cow-hair felting is impregnated with arsenic to prevent its destruction by moths.*

* See NEW REM., v., 12.

NEW PATENTS AND LAWS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED IN U. S. PATENT OFFICE.

Certificates dated February 27, 1877.

4,397. **Perfume.**—Thomas M. Biddle, Fort Wayne, Ind. "The word-symbol 'SATISFACTION-BOUQUET.'"

4,398. **Veterinary Medicines.**—George J. Busteed, New York, N. Y. "The word 'BUSTEED'S' in connection with a barn-yard scene."

4,400. **Medical Compound.**—Wm. E. Chester & Co., Montreal, Quebec, Canada, and Boston, Mass. "A triangle with a circular space within it; a monogram composed of the letters W. E. C., and a fac-simile of the autograph signature of WM. E. CHESTER."

4,408. **Medical Compound.**—M. A. Thedford & Co., Chattanooga, Tenn. "A portrait or vignette of Dr. A. Q. Simmons."

4,409. **Putty.**—Chicago White Lead and Oil Company, Chicago, Ill. "The designation 'STANDARD COMMERCIAL.'"

4,410. **Putty.**—The same. "The designation 'STANDARD GLAZIERS.'"

Certificates dated March 6, 1877.

4,413. **Medical Compounds.**—William W. Bartlet & Co., Boston, Mass. "The fanciful title 'IN HOC SIGNO VINCES. HONESTY.'"

4,417. **Medical Preparations.**—Dundas & Dick, New York, N. Y. "The word-symbol 'CAPSULOID.'"

4,419. **Spectacles and Eyeglasses.**—George Johnston, Detroit, Mich. "The Symbol of a Heart."

4,424. **Dentifrice.**—Francis M. Osborn, Portchester, N. Y. "The heads of a man and woman represented in the act of saluting, and the name 'F. M. OSBORN'S.'"

4,425. **Pills.**—E. R. Post & Co., Newburg, N. Y. "The fanciful title 'KNOTT'S PAIN KNOT.'"

4,427. **Preparation for the Cure of Croup.**—James Roach, Scranton, Pa. "The arbitrary word 'GALVIN'S.'"

4,432. **Perfumes.**—David G. Shaun, Boston, Mass. "The word-symbol 'GYNECO.'"

Certificates dated March 13, 1877.

4,435. **Liquid Cosmetic.**—Joseph Burnett, Boston, Mass. "The words 'AQUA DE FLORIMEL,' and the representation of a woman on horseback."

4,436. **Soap.**—William Dreydroppel, Philadelphia, Pa. "The National colors, red, white, and blue, in the form of a circular endless figure, forming the distinctive symbol shown."

4,438. **Medical Compound.**—Charles Gigault, Worcester, Mass. "The words 'THE CHILDREN'S COMFORT,' and of my fac-simile signature, Charles Gigault."

Certificates dated March 20, 1877.

4,451. **Medical Compound.**—George C. Barclay, Brooklyn, N. Y. "The fac-simile of the signature of John Reuter, and the portrait of the woman wearing spectacles," as shown.

4,453. **Soap.**—R. W. Bell & Co., Buffalo, N. Y. "The pictorial representation of the buildings and apparatus, such as trestle-works, inclined railway, &c., arranged at the mouth of a coal mine."

4,454. **Soap.**—R. W. Bell & Co., Buffalo, N. Y. "The word-symbol 'CORLISS.'"

4,456. **Medical Compound.**—Coussens & Tabler, Nashville, Tenn. "The word-symbol 'LIGHTNING.'"

4,460. **Soap.**—Robert Eastman, Philadelphia, Pa. "The word-symbol 'KITCHEN CRYSTAL.'"

4,463. **Essential Oils.**—Hiram G. Hotchkiss, Lyons, N. Y. "The fac-simile of my signature."

Certificates dated March 27, 1877.

4,479. **Medical Compound.**—Coussens & Tabler, Nashville, Tenn. "A figure resembling a bough of the horse-chestnut tree, with three figures representing the fruit of said tree, of which two are represented as attached to the said branch, and one of a larger size, represented as bursted, and lying near the said bough."

4,480. **Medical Compound.** John Carnrick, Bayonne, N. J. "The compound word-symbol 'KIDNEY-LEAF.'"

4,481. **Medical Compound.**—D. D. Daniels & Co., New York, N. Y. "The letters 'D. D. D.'"

4,482. **Liquid Paints.** Harrison Brothers & Co., Philadelphia, Pa. Case A. "The letters 'R. E. A. D. Y. M. I. X. E. D.' arranged in the form of a puzzle."

4,485. **Iron Paint.**—P. D. Nicols, Pittsburg, Pa. "The symbol of the shield."

4,487. **Medicine.**—R. V. Pierce, Buffalo, N. Y. "A symbol described as follows: A large letter P having the capital letter D of the abbreviation 'Dr.' entwined upon its stem; the said capital letter P. being so arranged as to constitute the initial of the words 'Pierce's Pleasant Purgative Pellets.'"

4,488. **Medicine.**—The same. "The letters 'R. V. P.' and 'G. M. D.' arranged in monograms, and the word-symbol 'GOLDEN MEDICAL DISCOVERY.'"

4,493. **Medical Compounds.**—Samuel T. W. Sandford, Long Island City, N. Y. "The illustration or diagram of the liver."

4,496. **Liniment.**—Clark Cook & Co., Tecuna, Nev. "The arbitrary words 'ROCKY MOUNTAIN.'"

4,498. **Toilet Powder.**—Victorine Franck, New York, N. Y. "The fanciful word 'NATRIC.'"

4,505. **Sachet Powder.**—Theodore Metcalfe and Co., Boston, Mass. "'T. Metcalfe & Co.'s' and the monogram composed of the letters 'T. M. & Co.,' the same being used in connection with the words 'SACHET POWDER.'"

LABELS.

Certificates dated March 6, 1877.

994. **"Dr. Wm. Heath's Dropsy Cure."**—John M. C. Groves, St. Louis, Mo.

995. **"Liquid Amandine."**—John G. Hill, Worcester, Mass.

997. **"Diphtheritic Troches."**—C. H. & J. Price, Salem, Mass.

Certificates dated March 13, 1877.

998. **"Solidified Glycerine."**—Charles H. Beers, New Haven, Conn.

1,000. **"Thurston's Great Scrofula Cure and Blood Purifier."** Thurston & Co., Garden City, Minn.

1,001, 1,002, 1,003. **Compressed Tablets of Chlorate of Potash.**—John Wyeth & Brother, Philadelphia, Pa.

Certificates dated March 20, 1877.

1,005. **"Foye's Italian Liniment."**—W. B. Foye, Canton, Ohio.

1,006. **"International Prize Medal Oil of Peppermint."**—Hiram G. Hotchkiss, Lyons, N. Y.

1,007. **"Toledo Banner."**—Charles R. Messenger, Toledo, Ohio.

1,008. **"Miller's Ointment for the Prevention and Positive Cure of Gathered Breasts."**—Francis L. Miller, Newark, N. J.

1,009. **"Miller's Sure Cure for Piles."**—Francis L. Miller, Newark, N. J.

1,010. **"Parce's Diphtheria Cure."**—Judson E. Parce, Otselic, N. Y.

1,012. **"Compressed Tablets of Pure Chlorate of Potash, without Gum or Sugar."**—John Wyeth & Brother, Philadelphia.

Certificates dated March 27, 1877.

1,013. **"Use Fragrance. It Cleanses the Teeth, Hardens the Gums, and Deodorizes the Breath."** E. Bugbee & Co., Somerville, Mass.

1,014. **"Colton's Toilet Article No. 3, for the Complexion and Skin."**—J. W. Colton, Westfield, Mass.

1,016–1,020. **"Notice—Directions—Keep the Bottle Well Corked, and Shake before Using—Directions—The Directions Must Be Followed."**—Marsh & Co., New York, N. Y.

PATENTS.

Patents granted March 6, 1877.

187,956. **Compositions for Preserving.** G. G. Am Ende, Hoboken, N. J.
The composition of boracic acid and chloroform, substantially as specified.

188,006. **Bone-Black Kilns.**—Walter R. Elmenhorst, Jersey City, N. J.

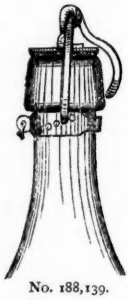
188,026. **Paint-Cans.**—E. Morton, Chicago, Ill.

188,029. **Bone-Black Retorts.**—Edw. E. Quinby, Orange, assignor to the F. O. Matthiessen & Wiechers Sugar Refining Company, Jersey City, N. J.

188,082. **Dermopathic Instruments.**—C. B. Tucker, Lyons, N. Y.

188,093. **Preserving Animal and Vegetable Substances.**—P. S. Barff, Kilburn, England.

188,139. **Bottle-Stoppers.**—Thos. Hipnell, Bridgeton, N. J., assignor to Cohansey Glass Manufacturing Company, same place.



No. 188,139.

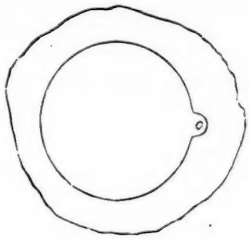
The combination in a bottle-stopper of a swinging bail, pivoted to a neck-band, a stopper pivoted to and vibrating on the swinging bail, and a stop projecting from the stopper plate to limit the throw of the swinging bail.

188,188. **Liquid Measures.**—M. C. Richards, Oswego, Ill.

188,212. **Cancelling-Inks.**—Wm. F. Van Der Linden and H. C. King, Brooklyn, N. Y. A cancelling-ink consisting of cotton-seed oil, oil varnish, ivory black, rosin black, chrome green, chrome yellow, Berlin blue, and English vermilion, substantially as described.

188,217. **Processes of Making Dyes from Naphthaline.**—Justus Wolff, Wyke, near Bradford, and Ralph Betley, Wigan, England.

188,197. **Heads for Caustic-Soda Drums.**—Jas. Simpson, Liverpool, England. Insert one of the lugs at the shortest diameter of the cover, beneath the head of the drum; drop the opposite [lug] into the recess in the head of the drum; give the cover a quarter-turn and



No. 188,197.

the locking lug is, by the elasticity of the drum-head, sprung down into the recess of the drum-head.

Patents granted March 13, 1877.

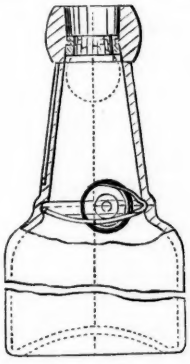
188,246. **Spectacles.**—J. Johnson, Lowell, Mass.

188,264. **Eyeglasses.**—John S. Spencer, New York, N. Y.

188,274. **Filters.**—Geo. W. Woolsey, Toledo, Ohio.

188,286. **Pomade.**—Mack Culberton, Lake City, Minn. The hair pomade composed of cocoa or palm soap, salts of Tartar, glycerine, oil lavender, and citronella, in the proportions substantially as above described.

188,293. **Bottle-Stoppers.**—W. H. Hicks, Brooklyn, N. Y. A detachable controliing bridge of less area than the area of the bottle at that point, placed across the inner wall of a bottle to support a stopper or closing piece, and on one side of the perpendicular centre-line of the bottle, formed to control the stopper from falling to its rest when the bottle is turned upon one side, and so formed as to allow the stopper to pass it freely on the other side of said centre-line.



No. 188,293.

188,303. **Manufacture of India Rubber Hose and Tubing.**—T. Murphy, New York, N. Y.

188,307. **Trusses.**—Jacob A. Sherman, New York, N. Y.

The "London" Cement for joining broken glass, china, wood, etc., is made by taking a piece of Gloucester cheese, boiling it three times in water (each time allowing the water to evaporate), and mixing the paste thus left with dry quicklime.—*Scientific American.*

Cutler's Cement, for fastening blades of dinner knives in ivory handles, consists of rosin 4 parts, beeswax 1 part, plaster of Paris or brickdust 1 part. Fill the hole in the handle with the cement, heat the tang of the blade, then press it in.—*Scientific American.*

PRESCRIPTIONS AND FORMULÆ.

Standard Formulæ for Certain New Preparations.

(Continued from page 126.)

1. *Phenol-sodium.*

Phenol (carbolic acid)	70 gm.
Caustic soda	30 "
Water, q. s. to make	1 litre.

2. *Emulsion of Substances insoluble in Water.*

For this purpose a tincture of soap-bark, *Quillaya Saponaria*, of the following strength may be used:

Soap-bark	100 gm.
Alcohol, 90%	500 "

Digest the bark with the alcohol for half an hour at a temperature near the boiling point; then allow it to macerate for 48 hours longer, frequently shaking, and filter.

3. *Emulsion of Balsam of Tolu.*

Balsam of tolu	2 parts.
Alcohol, 90%	10 "
Tincture of soap-bark	10 "
Hot water	78 "

Dissolve the balsam in the alcohol, add the tincture to the solution, and finally the water.

4. *Emulsions of Copaiva, of Tar, and of Oil of Cade* are prepared in the same manner.

5. *Aqua Eucalypti; Eucalyptus water.*

Distil 1 part of dry eucalyptus leaves with water, until 4 parts are obtained.

6. *Syrupus Eucalypti; Syrup of Eucalyptus.*

Eucalyptus leaves	50 gm.
Eucalyptus water	100 "
Water	q. s.
Sugar	650 gm.

Infuse the eucalyptus leaves in 250 gm. of water, strain and express after 3 hours, filter and make up with water to 250 gm.; then add the 100 gm. of eucalyptus water, and dissolve the sugar in the liquid, with the aid of a moderate heat, in a covered vessel.

7. *Eserine, or Physostigmin* (the alkaloid of Calabar Bean, Physostigma venenosum). Exhaust powdered Calabar beans mixed with 1 per cent. of tartaric acid, by means of repeated digestion and percolation with hot alcohol (about 3 times the weight of the powder for each digestion). Distil most of the alcohol off, filter the remainder, and heat on a water-bath until all the alcohol has been dissipated. When cold, add a small quantity of distilled water, and filter to separate resinous matter. Shake the filtered liquid with several portions of washed ether, until the latter ceases to become colored. Now add to the aqueous liquid remaining, which still contains the eserine as tartrate, a slight excess of potassium bicarbonate. Shake this mixture several times with ether, separate and unite the ethereal solution, and allow it to evaporate spontaneously, when the alkaloid eserine is left behind in crystals, which are rendered pure by a second crystallization.

8. *Bromhydrate of Eserine* is prepared by dissolving the foregoing alkaloid in colorless bromhydric acid, and evaporating to a syrupy consistence. In a few days fibrous, slightly colored, but not deliquescent crystals, make their appearance.—*Rép. de Pharm.*, 1877, 193.

Mosler's Tape-Worm Bolus. (Boli tænifugi, Mosler.)

℞. Florum koosso	30	Grammes
Kamalae	15	
Oleoresinae filicis maris	4	
Mellis	q. s.	

Mix and divide into 60 bolus, which may be sprinkled over with powdered cinnamon, and of which 30 should be taken in the evening, and 10 or 20 more the following morning.

ITEMS.

College of Pharmacy of the City of New York.—A special meeting of the College to take action in respect to the proposed modification of the plan of revising the U. S. Pharmacopœia, was proposed to be held during the present month. It has been decided, however, to defer the meeting for the present.

We regret to record the death, on Thursday, May 3d, at noon, of Mr. Max Frohwein, a respected member and a graduate of the College, who did business at the corner of Columbia and Rivington Streets, New York; and of Mr. Victor Herdling, a member of the last graduating class, whose demise we learn just as we are going to press.

An Act to regulate the weights and balances used in compounding and dispensing drugs and medicines in the City of New York. [See Editorial.]

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Every druggist and every apothecary, doing business in the city of New York, shall, on or before the first day of July, eighteen hundred and seventy-seven, be provided with the following appliances, to wit: First, a balance capable of carrying at least ten grammes in each pan, and sensible to three milligrammes when thus charged; second, a balance capable of carrying five hundred grammes in each pan, and sensible to two centigrammes when thus loaded; third, a set of metric weights, from two hundred grammes to one centigramme. Said weights and all other weights used in compounding drugs and medicines shall not vary from accuracy more than one per cent. for all weights weighing five grammes or less, nor more than one half of one per cent. for all weights weighing fifty grammes or less, and more than five grammes. All weights and balances used in compounding and dispensing drugs and medicines shall at all times be maintained in good order and correct adjustment.

§ 2. The only weights that shall be employed in compounding and dispensing of drugs and medicines shall be Troy weights and metric weights.

§ 3. It shall be the duty of the mayor of the City of New York, within twenty days after the approval of this act, to appoint an officer who shall be called the inspector of druggists' weights, and who shall hold office during the pleasure of the mayor.

§ 4. It shall be the duty of said inspector to inspect at least once a year, and oftener if necessary, all drug stores in the City of New York, and to examine the weights and balances therein contained which are used for the purpose of compounding and dispensing drugs and medicines, and to confiscate all such [weights] as shall not come up to the standard of accuracy required in section one of this act. It shall further be the duty of said inspector to collect from every druggist or drug firm failing to comply with any portion of section one of this act the sum of ten dollars, for which he shall give to the druggist a proper receipt. It shall further be the duty of said inspector to make a quarterly report to the mayor, which report shall contain the number of inspections made, and the names and places of business of all druggists who shall have failed to comply with the provisions of this act, and the names of all druggists from whom he shall have collected money as hereinbefore provided. The said report shall be attested before a notary public of the County of New York. The said inspector shall at the same time deliver to the mayor, for the use of the city, all moneys collected and all weights confiscated by him under the provisions of this act.

§ 5. The said inspector is hereby authorized to appoint a deputy inspector to assist him in the discharge of his duty under this act, and to delegate to him so much of the powers herein conferred upon said inspector as he may see fit.

§ 6. It shall be unlawful for any druggist or apothecary, by himself or his employees, to hinder or impede said inspector or his deputy in the proper pursuit of his duties un-

der this act. Any druggist or apothecary, or any of his employees, so offending, shall upon conviction be deemed guilty of a misdemeanor.

§ 7. The salary of said inspector of druggists' weights shall be at the rate of twelve hundred dollars per annum, to be paid out of the city treasury in quarterly installments, after the first day of July, eighteen hundred and seventy-seven, provided that the sums collected by said inspector, and delivered to the mayor, in accordance with section four of this act, shall be equal to the amount of salary then due. If the sums collected by the said inspector shall not equal the amount of salary nominally due, the said inspector shall receive as compensation the amount of the sums collected, and no more.

U. S. Custom House Tariff and Regulations for Drugs, Chemicals, and Medical Compounds.

Acids for medicinal use	10 per cent.
" " manufacturing purposes	Free.
Articles used for dyeing or tanning in a crude state, not otherwise provided for	Free.
" used for dyeing or tanning, not in a crude state	20 per cent.
Chemical salts, not otherwise provided for.	20 per cent.
" " used chiefly in medicines	40 per cent.
Drugs (A) and medicines, crude, not otherwise provided for	Free.
Medicinal balsams, not otherwise provided for	30 per cent.
Medicinal (B) barks, flowers, leaves, plants, roots and seeds, in a crude state, not otherwise provided for	Free.
same, not crude	20 per cent.
" preparations, not otherwise provided for	40 per cent.
" water, all not artificial	Free.
" waters, artificial, in bottles or jugs containing not over one quart	3 cts. each and 25 per cent.
" waters, artificial, in bottles or jugs containing over one quart, for each additional quart or fractional part	3 cts. and 25 per cent.
same, not in bottles	30 per cent.
Medicines and drugs, crude, not otherwise provided for. (See note to Drugs.)	20 per cent.
" not crude or patent, as medicinal prep. not otherwise provided for.	40 per cent.
" patent, viz.: pills, powders, tinctures, troches or lozenges, syrups, cordials, bitters, anodynes, tonics, plasters, liniments, salves, ointments, pastes, drops, waters, essences, spirits, oils, and other medicinal preparations or compositions, recommended to the public as proprietary medicines, or prepared according to some private formula or secret art, as remedies or specifics for any disease or diseases of affections whatever affecting the human or animal body	50 per cent.

Note A.

If, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the appraiser, to be so far adulterated, or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French, and German Pharmacopœias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made upon the invoice, and the articles so noted shall not pass the Custom House.

It is not conceived to be the intention of the law that the articles referred to should conform in strength and purity to each and all of those standards, as such conformity is believed to be impracticable, owing to the variations in those standards. If, therefore, the articles in question be manufactured, produced, or prepared in England, Scotland, France, or Germany, as the case may be, and prove to conform in strength and purity to the Pharmacopœia and Dispensatory of the country of their origin, said articles become exempt from the penalties of the law. All articles of the kind mentioned, produced, manufactured, or prepared in any other country than those before mentioned, must conform in the qualities stated to the United States pharmacopœia and dispensatory.

With a view to afford a reliable guide to the examiner of drugs and medicines, as well as to the analytical chemist, on appeal, in ascertaining the admissibility of such articles under the provisions of law, founded on their purity and strength, the following list is given of some of the principal articles, with the result of special tests agreeing with the standard authorities referred to in the law; all of which articles are to be entitled to entry when ascertained by analysis to be composed as noted, viz.:

Aloes, when affording 80 per cent. of pure aloetic extractive.

Assafœtida, when affording 50 per cent. of its peculiar bitter resin, and 3 per cent. of volatile oil.

Bark, Cinchona, when affording 1 per cent. of pure quinia, whether called Peruvian, Calisaya, Arica, Carthagena, Maracaibo, Santa Martha, Bogota, or under whatever name, or from whatever place, or

Bark, Cinchona, when affording 2 per cent. of the several natural alkaloids, combined as quinia, cinchonia, quinidia, aricine, etc., the barks of such strength being admissible as safe and proper for medicine, and useful for chemical manufacturing purposes.

Benzoin, when affording 80 per cent. of resin, or

Benzoin, when affording 12 per cent. of benzoic acid.

Colocynth, when affording 12 per cent. of colocynthin.

Elaterium, when affording 30 per cent. of elaterin.

Galbanum, when affording 60 per cent. of resin, or

Galbanum, when affording 19 per cent. of gum and 6 per cent. of volatile oil.

Gamboge, when affording 70 per cent. of pure gamboge resin, and 20 per cent. of gum.

Guaiacum, when affording 80 per cent. of pure guaiac resin.

Gum ammoniac, when affording 70 per cent. of resin and 18 per cent. of gum.

Jalap, when affording 11 per cent. of pure jalap resin, whether in root or in powder.

Manna, when affording 37 per cent. of pure mannite.

Myrrh, when affording 30 per cent. of pure myrrh resin and 50 per cent. of gum.

Opium, when affording 9 per cent. of pure morphia.

Rhubarb, powdered rhubarb in bulk not admissible. None now entered at this port. A small amount occasionally of *select powder* in lb. bottles, such as Herring's, occasionally imported. None admissible but the article known as East India, Turkey, or Russian rhubarb.

Sagapenum, when affording 50 per cent. of resin, or

Sagapenum, when affording 30 per cent. of gum, and

Sagapenum, when affording 3 per cent. of volatile oil.

Scammony, when affording 70 per cent. of pure scammony resin.

Senna, when affording 28 per cent. of soluble matter.

All medicinal leaves, flowers, barks, roots, extracts, etc., not herein specified, must be, when imported, in *perfect condition*, and of as *recent collection and preparation* as *practicable*.

All pharmaceutical and chemical preparations, whether crystallized or otherwise, used in medicine, must be found on examination to be pure and of proper consistence and strength, as well as of perfect manufacture, conformably with the formulas contained in the standard authorities named in the act, and must, in no instance, contain over 3 per cent. of excess of moisture or water of crystallization.

Essential or volatile oils, as well as expressed oils, used in

medicine, must conform in purity to the standards of specific gravity noted and declared in the Dispensatories mentioned in the act.

"Patent or secret medicines are by law subject to the same examination and disposition, after examination, as other medicinal preparations, and cannot be permitted to pass the Custom House for consumption, but must be rejected and condemned, unless the special examiner be satisfied, after due investigation, that they are fit and safe to be used for medicinal purposes."

Note B.

All drugs, medicines, medicinal preparations, including medicinal essential oils and chemical preparations used wholly or in part as medicine, imported from abroad shall, before passing the Custom House, be examined and appraised, as well in reference to their quality, purity, and fitness for medical purposes, as to their value and identity specified in the invoice.

All medicinal preparations, whether chemical or otherwise, usually imported with the name of the manufacturer, shall have the true name of the manufacturer and the place where they are prepared permanently and legibly affixed to each parcel by stamp, label, or otherwise; and all medicinal preparations imported without such names so affixed, shall be adjudged to be forfeited.

If, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the examiner, to be so far adulterated, or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French, and German Pharmacopœias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made upon the invoice, and the articles so noted shall not pass the Custom House, unless, on a re-examination of a strictly analytical character, called by the owner or consignee, the return of the examiner shall be found erroneous, and if it be declared as the result of such analysis, that the articles may properly, safely, and without danger, be used for medicinal purposes.

The owner or consignee shall at all times, when dissatisfied with the examiner's return, have the privilege of calling, at his own expense, for a re examination; and the collector, upon receiving a deposit of such sum as he may deem sufficient to defray such expense, shall procure some competent analytical chemist possessing the confidence of the medical profession, as well as of the colleges of medicine and pharmacy, if any such institutions exist in the State in which the collection district is situated, [to make] a careful analysis of the articles included in the return, and a report upon the same under oath. In case this report, which shall be final, shall declare the return of the examiner to be erroneous, and the articles to be of the requisite strength and purity, according to the standards referred to in the next preceding section, the entire invoice shall be passed without reservation on payment of the customary duties.

If the examiner's return, however, shall be sustained by the analysis and report, the articles shall remain in charge of the collector, and the owner or consignee, on payment of the charges of storage, and other expenses necessarily incurred by the United States, and on giving a bond with sureties satisfactory to the collector, at the expiration of that time, shall cause the same to be destroyed, and hold the owner or consignee responsible to the United States for the payment of all charges, in the same manner as if the articles had been re-exported.

One of the assistant appraisers at the port of New York, to be appointed with special reference to his qualifications for such duties, shall, in addition to the duties that may be required of him by the appraiser, perform the duties of a special examiner of drugs, medicines, chemicals, and so forth.

[For three or four years past the officer at this port has rejected *all* powdered drugs in bulk, except such as could, in their powdered condition, be tested for some known active principle.]

The Tariff on Quinia.—At the meeting of the Kentucky State Medical Society, in April, the following preamble and resolutions were offered by Dr. Larrabee, and were unanimously adopted by the Society:

Whereas, It has come to our knowledge that a bill, known as the "Morrison Bill," for the discontinuance of the "tariff on quinine," is at this time before the Committee on Ways and Means in the Congress of the United States; and whereas, the welfare of a large portion of the people in the Western States and Territories is concerned in the issue of this bill, as well as any movement which will enable them to obtain quinine at a less cost than the enormous prices now paid by the consumer; and whereas, the opposition to this bill set forth by the manufacturers and trade does not represent the desire of those who are engaged in the relief of suffering and want, but ignores entirely the necessities of this large population, many of whom are engaged in cultivating the soil and opening up new resources of wealth to the government in malarial districts; and whereas, principles of justice and humanity alike demand free quinine and an open market for the competition of European manufacturers; and whereas we, the members of the Kentucky State Society, in convention assembled, represent the sentiments of the people of this commonwealth upon this important subject; therefore, be it resolved,

First—That we indorse the "Morrison Bill," and do further pray that your honorable body will hear our petition.

Second—That a copy of these resolutions (printed) be sent to similar organizations of physicians' meetings in the various States.

Third—That these resolutions, with the signatures affixed, be furnished to our senators and representatives in Congress of the United States at its next meeting.

The Alkaloids of Cinchona.

THE following editorial in the *Pharmaceutical Journal* of April 28th concerns the trade, the medical profession, and the public on this side of the Atlantic to such an extent that we copy it entire:

"The bark sale held last Tuesday was remarkable for the large quantity of East Indian bark put up, and still more for the high prices which it commanded. Even the red bark, which is the produce of *Cinchonia succirubra*, and is generally characterized by containing a very large proportion of cinchonidine, together with a comparatively small amount of quinine, was sold at prices as high as those which were paid some months ago for bark suitable for the manufacture of quinine. Some of the crown bark from the plantations in the Madras Presidency realized from twelve to fifteen shillings a pound, in consequence of the large amount of quinine that it contains, and the great demand that there is now for bark.

"The prices given for these parcels of bark were not in all instances proportionate to the amount of quinine contained in them. This may be partly due to the circumstance that particular lots were bought for making pharmaceutical preparations, more on account of the appearance of the bark than any better reason, since it often happens that bark of good external character fetches a price altogether out of proportion to the amount of alkaloid it contains. The contrary is also true sometimes, and at the last sale some bark containing a high percentage of quinine was not bid for to the extent of its relative value, but was bought in at a merely nominal price. It is at the same time deserving of notice that several parcels of bark containing chiefly cinchonidine realized a very high price.

"The fact that such unusual prices have been paid for bark seems to indicate that there is little prospect of a reduction in the price of quinine, which is now upwards of three times the price it was some six or eight months ago, and consequently the present seems a favorable opportunity for some effort to be made to introduce into legitimate use cinchonidine and the other alkaloids associated with quinine.

"The results that have been obtained by the Medical Commissioners intrusted with the inquiry into the relative febrifuge value of these alkaloids have sufficiently shown that they are not much inferior to quinine in their efficacy, but

as yet little has been done in this country towards the practical application of the experience gained by the trials made in India. None of these alkaloids are officinal in any of the existing pharmacopœias, although the much less satisfactory preparation called quinoidine, or amorphous quinine, is contained in the German Pharmacopœia; and though salts of cinchonidine are abundantly manufactured in a state of purity, and of a crystalline character equal to the best qualities of quinine salts, there is not any recognized use to which these preparations are applied in this country.

"It would, therefore, seem that by the introduction of cinchonidine into use, a very considerable service might be rendered, and the influence of the high price of quinine in restricting its use might be to a very great extent made up for, with great advantage to certain classes of the community. Moreover, the adoption of this course would probably contribute somewhat to prevent the substitution of cinchonidine for quinine and its admixture with that alkaloid in the manner that we have recently pointed out to be frequent."

Potassium Xanthogenate as an Antiseptic.—Not long since we recorded the discovery of remarkable antiseptic and conservative properties in the well-known bisulphide of carbon. Unfortunately, this substance is exceedingly offensive to smell and taste, poisonous, combustible, and even explosive if mixed with air. If, however, it be mixed with an alcoholic solution of caustic potash, it combines with these substances to form a crystalline substance known as xanthogenate of potassium. This latter salt is quite as powerful as the more offensive bisulphide of carbon.

Zöller, in a letter to Professor Hofmann, states that the antiseptic properties of potassium xanthogenate are certainly not surpassed by those of any other known substance. A very small quantity of it has kept plant juices and extracts for eight months, whether closed or open, no mould or decomposition taking place, nor is the taste affected, and they can be taken without injury. At the beginning of October, Dr. Grote added some of this salt to wine must, and at the end of three months, the must preserved the flavor and sweetness of the fresh juice. Several persons partook of considerable quantities of this preserved drink without suffering any inconvenience. Dr. Zöller expresses the belief that the xanthogenate will become naturalized in every household on account of its cheapness, ease with which it can be used, non poisonous qualities, and the small quantity required for the purpose.

Xanthogenate of potassium may be employed in medicine, both externally and internally; and to avoid the action of potassium on the system, the xanthogenate of sodium could be used for medicinal purposes.—*Scientific American.*

Melon Sugar.—A company has been formed in California with the object of cultivating melons for the purpose of producing sugar from them. There is every prospect of success in this enterprise. Sugar can be made with far less trouble from the melon than from the beet root; nothing like the same amount of purification is necessary. The cultivation and collection of melons is much easier than is that of beet root, and lastly the surplus of the melon can be turned to valuable account. The seeds yield an oil excellently adapted for table use, while the final residue makes a nutritious cattle food. It is probable that beet root can be grown in a smaller space than can melons to yield an equal proportion of sugar; but there are, doubtless, many parts of the world where this consideration would be overbalanced by the economy in the labor and expense of cultivation.

Glucose.—The demand for glucose on the part of confectioners and others throughout the country is enormous, and heretofore the supply has come from France and Germany. Quite recently, however, the manufacture of pure glucose from corn has been undertaken in Davenport, Iowa, and is now being carried on at the rate of 500 bushels per day.

Dangerous Vinegar.—The Board of Health of the District of Columbia recently condemned five car-loads of vinegar sent to Washington from Chicago, on the ground that it is not a genuine article and is very injurious to health. An analysis of the so-called vinegar has been made. It appears, according to the report of the Board of Health, that the vinegar contains $54\frac{44}{100}$ grains per gallon of anhydrous sulphuric acid, combined with lime, to form sulphate of lime equivalent to $117\frac{20}{100}$ grains of gypsum per gallon, and, besides that, five grains of free sulphuric acid per gallon. The Board also reports that this sample was taken from an invoice of more than 1,000 barrels brought here to be sold as vinegar, and that it is likely to find a ready sale on account of its low price. The report concludes as follows: "When we think that oil of vitriol (sulphuric acid) can be bought at five cents a pound, and that a pound of said acid would render a barrel of fluid as acid as the strongest vinegar, the wonder will cease that it is sold cheap. This, therefore, is a fraud upon commerce and a dangerous substitute for vinegar."

The Hygiopolitan Pharmacist.—"It is understood that the city of health suggested by Dr. Richardson is to be actually erected next spring, on the south coast, within an easy distance of Brighton. Much interest will certainly be evoked by this scheme among theorists of every class, and the promoters of the enterprise will be in no danger of failing for lack of advice. It would be ungenerous if those many excellent gentlemen who have devoted their lives to pharmacy, and who are always ready with elaborate plans for the perfection of their profession, should withhold their assistance. Surely our old friend, 'who has known the drug trade thirty years,' will oblige. There will then and there be an opportunity of establishing a model pharmacy, and in the interest of his city, as well as in his capacity of chairman of the Medical Defence Association, Dr. Richardson would doubtless give his hearty assent and consent to such an idea. Let the Pharmaceutical Council take this subject into their serious consideration. Let them determine to produce a model pharmacist; one who shall meet the desires of their own hearts, and who shall never incur any reproach from their condescending friends of the medical profession. Let them appoint one of their omnipotent committees to elaborate a series of rules which shall so hedge around his conduct that they may ultimately be able to point to him as a specimen of the article which during all these long years, by examinations and pharmacy acts, by lectures and laboratories, by inaugural addresses and silver medals, by deputations to foreign societies and grants to provincial associations, by evening meetings and *conversazioni*, by editors, professors, solicitors, secretaries and committees, by microscopes, spectroscopes, polariscopes, blowpipes, tobacco-pipes, champagne, tea, coffee, biscuits, and cake, through good report and through evil report, they have been aiming to produce. Let us try to imagine a perfectly satisfactory hygiopolitan pharmaceutist, such as the learned and pseudo-learned societies and amateur legislators of our country would turn out if they could. Here is an indication of the rules which the committee might propose with the view of developing such a one:

1. He must of course have been associated with the Pharmaceutical Society from his youth up, and equally, of course, he must be able to show a record quite free from association with any other trade society.

2. He must pass an examination before competent authorities to prove that he is utterly devoid of business qualifications.

3. He shall be required to discover at least one new alkaloid, and to detect lead in at least one hitherto unsuspected substance in the course of each twelve months.

4. He shall keep nothing in his stock but drugs and chemicals; pharmaceutical preparations, perfumery, patent and homœopathic medicines, and every advertised product shall be rigorously excluded.

5. He shall declare on the label of everything sold by him the exact chemical constitution of such substance, and shall be responsible for the exactness of such statement.

6. In the event of any accidental death in the city resulting from a physician's or surgeon's error, he shall at once step forward and give himself up to the police on a charge of manslaughter. His private property, reputation, and all he may have, shall be at the disposal of any public

analyst or secretary of medical defence association who may wish for it.

7. He shall refuse to converse with any customer entering his shop. Even remarks about the weather might lead to phrases which might seem to suggest remedies for colds, coughs, diarrhœa, etc., which would infringe the Apothecaries act; therefore it is though tbest that he should be reduced to absolute silence.

8. He shall supply medicines of different potencies in bottles or packages of distinctive colors. If the existing variety of colors run out, he shall invent new ones.

9. He shall keep every substance or preparation likely to be used in dispensing locked up in a separate cupboard. A witness shall watch the weighing or measuring of each article, and everytning shall be exhaustively analyzed before being dispensed.

10. If medicines fail to act as the physician expects, the pharmaceutist shall be publicly disgraced.

11. He shall never be so discourteous as to observe an error in a physician's prescription; he shall dispense prescriptions exactly as they are written, and at the same time shall avoid any dangers resulting from hasty or careless writing. If he finds it difficult to reconcile these conflicting regulations, he must understand that the regulations shall remain, whatever may become of him.

12. His business shall be carried on under inspection of a committee selected from the Pharmaceutical Council, the Society of Public Analysts, the Medical Defence Association, the coroners of Great Britain, and every policeman *ex officio*. The decision of any one of these shall be final; and if any of them shall disagree, the pharmaceutist shall obey both.—*Chemist and Druggist.*

Sticks of Copper Sulphate.—Four parts of copper sulphate and one part of borax triturated together are said to form a mass that can be rolled into sticks at pleasure for cauterizing purposes.

Liquid for Chemical Bath.—The *Iron Age* says that a solution of chloride of lime in glycerine will make a chemical bath which will not boil below 572° or 626° Fahr., and has the further advantage of never attacking metals nor congealing.

The British Pharmacopœia.—It is reported that a new edition of this pharmacopœia is soon to be issued, the last one being nearly exhausted.

Copper in Peas.—The poisoning of peas, beans, asparagus, artichokes, and other vegetables put up in cans for use as food, has recently been made the subject of a formal report by M. Pasteur. In some tins of peas he found copper to the amount of one-thousandth part of the entire weight of the food.

Mr. R. H. Patterson has been appointed to the Chair of Botany in the University of Glasgow.

Pharmaceutical Society of Ireland.—At a recent examination for the degree of Pharmaceutical Chemist, fourteen out of twenty-seven candidates were rejected.

The Latest Parisian Novelty is said to be an enema apparatus, combined with a musical box so arranged that while working the instrument according to its medical duties it shall at the same time warble forth some of the choice melodies of "La Fille de Madame Angot."

Secrets of Success in Pharmacy.—The *Chemist and Druggist* says its dispensing creed includes these articles of faith:

"1. A slow dispenser is, on an average, a bad one.

"2. A rapid dispenser is, on an average, a good one, because his quickness arrives from varied practice, and a concise sense of a knowledge of his business.

"3. The errors due to external distraction are rendered infinitesimal by the force of habit.

"4. The best chance for a dispensing establishment, subject to the purity of drugs, is a mutual understanding and personal intercourse between the patient and dispenser.

"5. The rise of every great pharmacy with whose history we are acquainted has been due as much to the confidence reposed in its individual dispensers as to the excellence and character of its preparations."

Pharmacy in Australia.—Victoria has two acts governing the practice of pharmacy, which went into operation on the 1st of January, and resemble very closely the laws in force in Great Britain.

Lavœsium.—A French chemist claims to have discovered another new metal, which he has named, as above, after Lavoisier. He thinks it is widely disseminated, and describes it as being of a silvery white color, malleable, and fusible. Several of its spectrum lines coincide with those of copper. [—? Ed. N. R.]

Scientific Information for Ladies.—In spite of all the efforts of the educational powers that be, to spread scientific instruction amongst the people, the instances that daily crop up of the crass ignorance on matters of science, amongst even well-educated writers, are sufficiently amusing to the initiated. A wiseacre who has compiled the "Lady's Every-Day Book," describing castor oil, coolly informs us that "this very safe and common aperient is an oily substance secreted by the beaver. We obtain it both from Russia and America, but that obtained from the latter country is esteemed the best." We can fancy a fond mother trying to cram half an ounce of Russian castoreum, membranous bag and all, down her lovely infant's throat, under the impression that it was a "very safe aperient."—*Chemical News.*

Neptunium: a New Metal.—Prof. Hermann announces in the last issue of the *Journal für praktische Chemie* the discovery of a new metal, to which he gives the name of Neptunium. The new metal was discovered in a mineral of the Columbite group, in the course of an investigation on the oxides of niobium, tantalum, and the supposed "ilmenium."

Another Source of Tannin.—Hancock, Me., factories pay $5 a ton for sweet fern to make tannin of.

Blue Glass on the Railroad.—An odd car on the Bellefontaine line, St. Louis, has been fitted up with blue glass windows. The effect of the pallid blue light upon the complexion of passengers is something startling, but the thing appears to take with them, says the *Republican.*—*The Polytechnic Review.*

Chemical Prizes.—Among the prizes offered by the German *Verein zur Beförderung des Gewerbfleisses* are the following:

A silver medal or its value, and 900 marks (about $200), for an opaque red enamel for gold, silver, copper, and bronze.

A gold medal, or its value, and 3,000 marks, for a substitute for caoutchouc; the same for a suitable substitute for gutta-percha.

A prize of 100 marks for a concise, critical, and practical treatise on cements; also 1,500 marks for the best investigation of the cause of a change in the zero point of thermometers, with a method of preventing or remedying it.

A prize of 2,000 marks for the best series of iron and manganese alloys, at least twenty samples to be prepared, containing from 0.5 to 5 per cent. of manganese.—*Scientific American,* April 14, 1877.

A New Anæsthetic has been described by M. Rabuteau before the Academy of Sciences, Paris. It is hydrobromic ether, which, he says, can be administered without difficulty, and which is, moreover, eliminated almost completely by the respiratory passages. It holds an intermediate place between chloroform, bromoform and ether. Considering the frequent recurrence of chloroform accidents, any new anæsthetic which promises to yield a greater degree of immunity from danger of a fatal result is worthy of trial.

The Mineral Spring at Berresboim.—R. Bender says that water of this spring, which was known to the ancient Romans, has recently been analyzed and found to contain a large percentage of lithium, also traces of cæsium, rubidium, bromine and iodine.